# UNDERGRADUATE CATALOG
## 2026-2027

UNIVERSITY OF NORTH CAROLINA
CHARLOTTE

# Phone Numbers and Address

If, after reading this *Catalog*, students have further questions or specific inquiries about the programs of, or admission to, The University of North Carolina at Charlotte, they may look below to find the proper office to contact. Correspondence may be addressed to any of the offices by following this format:

The University of North Carolina at Charlotte
Attn: *Department or College*
9201 University City Boulevard
Charlotte, NC 28223-0001

## Information

**Campus Operator/Switchboard..... 704-687-8622 (UNCC)**

Admissions
- Undergraduate ..... 704-687-5507
- Graduate ..... 704-687-5503
- International ..... 704-687-5503
- Summer School ..... 704-687-1283

Adult Students and Extended Services ..... 704-687-5104
Advising Center ..... 704-687-7717
Athletics ..... 704-687-1054
Bookstore ..... 704-687-7050
Bursar ..... 704-687-5506
Charlotte Online ..... 704-687-8859

Colleges
- Arts + Architecture ..... 704-687-0100
- Business ..... 704-687-7577
- Computing and Informatics ..... 704-687-8450
- Education ..... 704-687-8722
- Engineering ..... 704-687-8244
- Graduate School ..... 704-687-5503
- Health and Human Services ..... 704-687-8374
- Honors College ..... 704-687-7197
- Humanities & Earth and Social Sciences ..... 704-687-0088
- Science ..... 704-687-0057
- University College ..... 704-687-5630

Continuing Education ..... 704-687-8900
Counseling and Psychological Services ..... 704-687-0311
Dean of Students ..... 704-687-0345
Dining Services and Meal Plans ..... 704-687-7337
Disability Services ..... 704-687-0040
Financial Aid ..... 704-687-5504
Housing and Residence Life ..... 704-687-7501
ID Office ..... 704-687-7337
International Programs ..... 704-687-7755
IT Service Desk ..... 704-687-5500
Library ..... 704-687-0494
Niner Central ..... 704-687-5504
Parking and Transportation Services ..... 704-687-0161
SOAR ..... 704-687-0340
Student Engagement/Student Union ..... 704-687-7100
Student Health ..... 704-687-7400
University Career Center ..... 704-687-0795
University Center for Academic Excellence ..... 704-687-7837
University Recreation ..... 704-687-0430
University Registrar ..... 704-687-5505
University Scholarship Office ..... 704-687-5871

## Emergency Numbers

Campus Police -- Emergency ..... 704-687-2200 or 911
-- Non-Emergency ..... 704-687-8300
Inclement Weather Hotline ..... 704-687-1900

# Acknowledgements

This *Catalog* was prepared and published by the Office of Academic Affairs in June 2026. Its goal is to provide a comprehensive, accurate, and useful catalog that changes on a daily basis, which fully describes the ever-changing academic programs, policies, regulations, and requirements of the University.

Although the publisher of this *Catalog* has made every reasonable effort to attain factual accuracy herein, no responsibility is assumed for editorial, clerical or printing errors, or errors occasioned by mistakes. The publisher has attempted to present information that, at the time of preparation for printing, most accurately describes the course offerings, faculty listings, policies, procedures, regulations, and requirements of the University. However, it does not establish contractual relations. The University reserves the right to alter or change any statement contained herein without prior notice.

We request that omissions and inaccuracies be brought to the attention of the Editor, as well as any suggestions and comments on the presentation and content.

**Catalog Compilation**
P.J. Frick, Catalog Editor

**About the Cover**
Cover art by Bernie Petit, Visual Arts Specialist

**Publication Information**
Font Type: Benton Sans

**Copyright 2026**
**The University of North Carolina at Charlotte**
**All rights reserved.**

UNIVERSITY OF NORTH CAROLINA
CHARLOTTE

# The University of North Carolina at Charlotte

## Undergraduate Catalog
## 2026-2027
## Vol. XLIX

Fall 2026, Spring 2027, Summer 2027

https://catalog.charlotte.edu

About using this PDF Catalog:

This PDF has been formatted with navigation bookmarks. The navigation bookmarks on the left side of the screen function as an interactive table of contents. They will allow you to quickly find sections of interest and move easily throughout this document. You can expand and collapse the bookmarks by clicking on the +/- symbols.

If the Bookmarks Panel has been closed, you can reopen it by clicking on the Bookmarks icon:

*The University of North Carolina at Charlotte is committed to equality of educational opportunity and does not discriminate against applicants, students, or employees based on any protected status.*

UNC CHARLOTTE ♦ 9201 UNIVERSITY CITY BOULEVARD ♦ CHARLOTTE, NC 28223
**www.charlotte.edu**

CHARLOTTE

Welcome to UNC Charlotte, North Carolina's urban research university, where great things are happening.

UNC Charlotte is experiencing remarkable momentum. Last Fall, the University rose to #74 among the nation's top public universities in the 2026 U.S. News & World Report Best Colleges rankings. Over the past five years, we have climbed 85 spots overall, making UNC Charlotte one of the top 10 fastest-rising universities in the country. We were also ranked #38 among US News' Most Innovative Schools, the highest ranked public university in NC in that category.

Among our most significant recent achievements is earning the nation's highest research designation, Carnegie R1, announced in February 2025. This distinction recognizes the depth and impact of the research conducted by our faculty, students and partners, and it reflects the bold trajectory of our University.

As a student at a top-tier research university, you will have opportunities to engage directly with discovery and innovation. Our faculty bring the latest knowledge and real-world insights into the classroom, and many students work alongside them on research and creative projects that address today's most pressing challenges.

At UNC Charlotte, however, excellence is measured not only by what we discover, but also by how we support our students. Our promise is to provide a welcoming and supportive community in Niner Nation while helping you stay on track to complete your degree on time, and prepare for success in an ever-changing world.

As you pursue your academic goals, think of UNC Charlotte's dedicated faculty and staff as partners in your success. Their expertise and mentorship, along with the many resources and services available across campus, will help you achieve your academic, personal and professional aspirations.

Even as we expand our research enterprise, we remain deeply committed to undergraduate education. Last year we launched our "Internships for All" initiative, which provides a guaranteed internship opportunity for every undergraduate student who wants one. Our location in North Carolina's largest and most dynamic city connects students to leading companies, growing industries, and meaningful professional experiences. These connections give our graduates invaluable hands-on learning and a strong advantage as they begin their careers.

During your time here, I encourage you to explore all that UNC Charlotte has to offer. Take advantage of leadership and volunteer opportunities; attend cultural events and lectures; join a student organization; participate in intramural sports; and cheer on your Charlotte 49ers. he experiences you build beyond the classroom will shape your college years and help define your future.

If you need assistance along the way, please speak up. Our campus community is here to support you. At the same time, I encourage you to get involved and take an active role in your education and in the life of the University.

It is truly a privilege to serve as your chancellor. I remain committed to strengthening our academic enterprise, providing an outstanding college experience, and always prioritizing the safety and well-being of our campus community.

Thank you for choosing UNC Charlotte. I look forward to seeing you on campus.

Go Niners!

Sharon L. Gaber
Chancellor

If this is your first year at UNC Charlotte, welcome to our dynamic community! If you are returning, we are pleased to welcome you back.

You are part of an engaged and enterprising university that is interconnected with North Carolina's largest city. Because we are situated in a growing and dynamic region, our institution is alive with possibilities to learn and grow. As you explore the academic opportunities available, know that we believe in your ability to succeed and our amazing faculty and staff are ready to help you achieve your goals.

We are dedicated to your education and offer resources to help you along your journey at UNC Charlotte. Niner Central is the place to go with any of your questions about registration, student accounts or financial aid and the University Center for Academic Excellence houses many tools to support success in your classes. Please meet with your academic advisor early and often, and get to know your professors whether it's in class, in the lab or during office hours.

Remember, too, that there is more to the collegiate experience than coursework. I encourage you to become involved in some of the many activities or student organizations. By getting involved, you will build relationships with both your fellow students and our faculty and staff that you will cherish in the years to come.

I hope you will take advantage of the excellent resources available here and explore all that our University has to offer. But don't stop there – explore research, community engagement and professional development opportunities in the greater Charlotte area and in the world beyond. We're here to help you get started.

We are pleased that you have chosen UNC Charlotte. As our University continues to grow, we look forward to seeing your growth as a person, a scholar and a future alum.

Sincerely,

Jennifer Troyer
Provost and Vice Chancellor for Academic Affairs

Table of

# Contents


## THE UNIVERSITY

Welcome to UNC Charlotte ..... 2
Table of Contents ..... 4
Academic Calendar ..... 6
Introduction to the Catalog ..... 7
Academic Programs ..... 11
Accreditations ..... 18
About the University ..... 20

## STUDENT INFORMATION ABOUT ATTENDING THE UNIVERSITY

Admission to the University ..... 46
University Regulation of Student Conduct ..... 53
- Code of Student Academic Integrity ..... 54
- Code of Student Responsibility ..... 55
- Illegal Drugs and Alcohol Abuse ..... 56
- Sexual Misconduct and Interpersonal Violence ..... 56
- Smoking and Use of Tobacco Products ..... 57
- Noble Niner Code ..... 58

Degree Requirements and Academic Policies ..... 59
- Academic Advising ..... 60
- Baccalaureate Degree Progression ..... 60
- Baccalaureate Degree Requirements ..... 61
- General Education Program ..... 61
- Declaring Majors and Minors ..... 64
- Registration ..... 65
- Termination of Enrollment ..... 67
- Course Attendance and Participation ..... 68
- Grading ..... 69
- Academic Standing ..... 71
- Readmission of Former Students ..... 72
- Academic Appeal and Grievance Procedures ..... 73
- Transfer Credit/Advanced Academic Standing ..... 73
- Graduation ..... 75
- Academic Records and Transcripts ..... 76
- FERPA ..... 76

Financial Information ..... 79
- Tuition and Fees ..... 80
- Dining, Housing, and Parking ..... 82
- Financial Aid ..... 83
- Scholarships ..... 85
- Payment ..... 86
- Refunds ..... 87

## COLLEGE OF ARTS + ARCHITECTURE

College of Arts + Architecture ..... 88
Architecture ..... 92
Art and Art History ..... 101
Dance ..... 119
Music ..... 125
Musical Theatre ..... 138
Theatre ..... 139

## BELK COLLEGE OF BUSINESS

College of Business ..... 140
Accountancy ..... 145
Business Administration ..... 147
Business Information Systems and Operations Management ..... 149
Economics ..... 156
Finance ..... 160
Management ..... 166
Marketing ..... 172

## COLLEGE OF COMPUTING AND INFORMATICS

College of Computing and Informatics ..... 177
Bioinformatics and Genomics ..... 182
Computer Science ..... 187
Cybersecurity ..... 194
Human-Centered Computing and Education ..... 197
Machine Learning ..... 202
School of Data Science ..... 208

## CATO COLLEGE OF EDUCATION

College of Education ..... 214
Counseling ..... 221
Educational Leadership ..... 221
Middle, Secondary, and K-12 Education ..... 223
Reading and Elementary Education ..... 232
Special Education and Child Development ..... 237

## THE WILLIAM STATES LEE COLLEGE OF ENGINEERING

College of Engineering ..... 249
Albert School of Construction ..... 255
Civil and Environmental Engineering ..... 283
Electrical and Computer Engineering ..... 299

Engineering Technology and Construction Management ..... 317
Industrial and Systems Engineering ..... 336
Mechanical Engineering and Engineering Science ..... 344

## COLLEGE OF HEALTH AND HUMAN SERVICES

College of Health and Human Services ..... 368
Applied Physiology, Health, and Clinical Sciences ..... 370
Nursing ..... 379
Public Health and Health Administration ..... 385
Social Work ..... 391

## COLLEGE OF HUMANITIES & EARTH AND SOCIAL SCIENCES

College of Humanities & Earth and Social Sciences ..... 396
Africana Studies ..... 400
Anthropology ..... 406
Communication Studies ..... 413
Criminal Justice and Criminology ..... 424
Earth, Environmental, and Geographical Sciences ..... 428
English ..... 443
Global Studies ..... 455
History ..... 463
Interdisciplinary Studies ..... 468
Languages, Cultures, and Translation ..... 492
Philosophy ..... 410
Political Science and Public Administration ..... 515
Psychological Science ..... 524
Religious Studies ..... 527
ROTC: Air Force / Aerospace Studies ..... 521
ROTC: Army / Military Science ..... 532
Sociology ..... 534

## KLEIN COLLEGE OF SCIENCE

Klein College of Science ..... 541
Biological Sciences ..... 545
Chemistry ..... 552
LEADS Program ..... 54
Mathematics and Statistics ..... 560
Physics and Optical Science ..... 575

## SCHOOL OF PROFESSIONAL STUDIES

Professional Studies ..... 580
Online Academic Programs ..... 581
Professional Credit ..... 581
Corporate Training and Executive Education ..... 581

## HONORS COLLEGE

Honors College ..... 587

## COURSE DESCRIPTIONS

Course Descriptions (AAHP-WRDS) ..... 591

## OFFICE OF UNDERGRADUATE EDUCATION

Office of Undergraduate Education ..... 838
Advising Systems ..... 839
Athletic Academic Center ..... 839
Communication Across the Curriculum ..... 840
Disability Services ..... 840
First-Year & Transition Programs ..... 840
Office of Undergraduate Research ..... 841
University Advising Center ..... 841
University Career Center ..... 842
Office of Pre-Health Advising ..... 843
University Center for Academic Excellence ..... 843
University College ..... 845
University Transfer Center ..... 845

## CAMPUS LIFE AND STUDENT RESOURCES

Campus Life and Student Resources ..... 846
Adult Students and Extended Services ..... 847
Athletics and Recreation ..... 847
Auxiliary Services ..... 849
Dean of Students Office ..... 851
Enrollment Management ..... 847
Environmental Facilities and Services ..... 852
Health and Wellbeing ..... 853
Housing and Residence Life ..... 854
International Programs ..... 855
Library ..... 857
Office of Pre-Health Advising ..... 843
Performing Arts ..... 858
Police and Public Safety ..... 858
Strategic and Success Initiatives ..... 859
Student Engagement ..... 860
Sustainability ..... 864
Technology ..... 864
University Advancement ..... 24, 864

## ADDITIONAL RESOURCES

Faculty Directory ..... 868
Glossary ..... 933
Index ..... 946
Campus Map ..... 958

# Academic Calendar
# 2026-2027

UNC Charlotte's academic year is divided into three terms: Fall, Spring, and Summer. These full terms are divided into half terms.

## FALL 2026

| | |
|---|---|
| Aug 10 | Academic year begins |
| Aug 16 | New Student Convocation/Welcome |
| Aug 17 | First day of classes (Full Term & First Half Term) |
| Aug 22 | First day of classes (Saturdays) |
| Sep 5 | No Saturday classes |
| Sep 7 | HOLIDAY: Labor Day |
| Sep 30 | Last day of classes (First Half Term) |
| Oct 2-5 | Final examinations (First Half Term) |
| Oct 12-13 | Fall Recess |
| Oct 14 | First day of classes (Second Half Term) |
| Oct 26 | Registration for Spring 2026 begins |
| Nov 11 | HOLIDAY: Veteran's Day |
| Nov 25-28 | HOLIDAY: Thanksgiving |
| Dec 2 | Last day of classes (Full Term & Second Half Term) |
| Dec 3 | Reading day |
| Dec 4-5, 7-10 | Final examinations (Full Term & Second Half Term) |
| Dec 11-12 | Fall Commencement |

## SPRING 2027

| | |
|---|---|
| Jan 11 | First day of classes (Full Term & First Half Term) |
| Jan 16 | First day of classes (Saturdays) |
| Jan 18 | HOLIDAY: M.L. King, Jr. Day |
| Feb 24 | Last day of classes (First Half Term) |
| Feb 25 | Reading Day (First Half Term) |
| Feb 26 – Mar 1 | Final examinations (First Half Term) |
| Mar 8-13 | Spring Break |
| Mar 15 | First day of classes (Second Half Term) |
| Mar 29 | Registration for Summer 2026 and Fall 2026 begins |
| Apr 9-10 | Refresh Weekend |
| Apr 28 | Last day of classes (Full Term & Second Half Term) |
| Apr 29 | Reading Day (Full Term & Second Half Term) |
| Apr 30 - May 1, 3-6 | Final examinations (Full Term & Second Half Term) |
| May 7-8 | Spring Commencement |
| May 10 | Academic year ends |

## SUMMER 2027

| | |
|---|---|
| May 31 | HOLIDAY: Memorial Day |
| May 17 – Jun 23 | Summer First Half Term* |
| May 17 - Aug 3 | Summer Full Term* |
| Jun 24-26, 28 | No classes |
| Jul 5 | HOLIDAY: Independence Day |
| Jun 29 - Aug 5 | Summer Second Half Term* |

** Dates include final examinations.*

**Please note:** All dates are subject to change. No classes are held on the above noted holiday dates. A complete list of dates and deadlines is available online from the Office of the Registrar at registrar.charlotte.edu/calendar. Please check this site for the most current information.

### AUGUST 2026

| S | M | T | W | Th | F | S |
|---|---|---|---|---|---|---|
| | | | | | | 1 |
| 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| 30 | 31 | | | | | |

### SEPTEMBER 2026

| S | M | T | W | Th | F | S |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 27 | 28 | 29 | 30 | | | |

### OCTOBER 2026

| S | M | T | W | Th | F | S |
|---|---|---|---|---|---|---|
| | | | | 1 | 2 | 3 |
| 4 | 5 | 6 | 7 | 8 | 9 | 01 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 25 | 26 | 27 | 28 | 29 | 30 | 31 |

### NOVEMBER 2026

| S | M | T | W | Th | F | S |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | | | | | |

### DECEMBER 2026

| S | M | T | W | Th | F | S |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 27 | 28 | 29 | 30 | 31 | | |

### JANUARY 2027

| S | M | T | W | Th | F | S |
|---|---|---|---|---|---|---|
| | | | | | 1 | 2 |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | | | | | | |

### FEBRUARY 2027

| S | M | T | W | Th | F | S |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 28 | | | | | | |

### MARCH 2027

| S | M | T | W | Th | F | S |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 28 | 29 | 30 | 31 | | | |

### APRIL 2027

| S | M | T | W | Th | F | S |
|---|---|---|---|---|---|---|
| | | | | 1 | 2 | 3 |
| 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 25 | 26 | 27 | 28 | 29 | 30 | |

### MAY 2027

| S | M | T | W | Th | F | S |
|---|---|---|---|---|---|---|
| | | | | | | 1 |
| 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| 30 | 31 | | | | | |

### JUNE 2027

| S | M | T | W | Th | F | S |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 27 | 28 | 29 | 30 | | | |

### JULY 2027

| S | M | T | W | Th | F | S |
|---|---|---|---|---|---|---|
| | | | | 1 | 2 | 3 |
| 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 25 | 26 | 27 | 28 | 29 | 30 | 31 |

# *Introduction* to the Catalog

# Introduction to the Catalog

## University Catalogs Policy

The University of North Carolina at Charlotte Undergraduate and Graduate Catalogs (hereby referred to as the "Catalogs") are the official source of information regarding the University's academic programs and courses. The Catalogs serve as a guide, in conjunction with regular academic advising, in planning a course of study and in meeting requirements for graduation.

The Catalogs are published annually in the Spring for the following academic year, which begins in the Fall. Although course offerings and academic requirements at UNC Charlotte are continually under examination and revision, the Catalogs are updated only once per year. This annual revision procedure helps ensure that users of the Catalogs will not find unexpected changes during their academic planning processes.

The UNC Charlotte Undergraduate Catalog and the UNC Charlotte Graduate Catalog are not irrevocable contracts. Regulations published in them are subject to change by the University at any time without notice. University regulations are policy statements to guide students, faculty, staff, and administrative officers in achieving the goals of the institution. Necessary interpretations of these policies will be made by the appropriate authorities with the interest of the students and the institution in mind. Students are encouraged to consult an advisor if they have questions about the application of any policy.

The University reserves the right to change any of its policies, rules, and regulations at any time, including those relating to admission, instruction, and graduation. The University also reserves the right to withdraw curricula and specific courses, alter course content, change the calendar, and to impose or increase fees. All such changes are effective as proper authorities determine and may apply not only to prospective students, but also to those who are already enrolled in the University.

### Catalog Year Requirements

#### Major, Minor, Certificate

The requirements specified in the Catalogs apply to students who commence their studies at UNC Charlotte during the academic year specified in this catalog and who remain in continuous enrollment (no enrollment interruption longer than 12 consecutive months) at the institution until they graduate. If program requirements for a major, minor, or certificate are changed in the Catalog, students remain by default under the old requirements. However, students may elect to follow these new requirements. The choice to apply the new requirements must be declared by students prior to applying for graduation by means of an academic petition at https://academicpetition.charlotte.edu/. When students declare or change their major they may: 1) elect to stay with the program requirements in the Catalog at the time of their matriculation to the University, or 2) change to follow the program requirements of the current Catalog at the time of their major declaration.

The decision to change Catalog year requirements rests with the student with two rare exceptions: 1) if academic program accreditation and/or professional licensure requirements necessitate the change, or 2) if there is an undue academic burden placed on a department if a student elects to follow the Catalog year requirements of a previous Catalog (e.g., a specialized course is no longer offered).

#### General Education

The General Education requirements specified in the Catalogs apply to students who commence their studies at UNC Charlotte during that academic year and who remain in continuous enrollment (no enrollment interruption longer than 12 consecutive months) at the institution until they graduate. If the General Education requirements change, students remain by default under the old requirements. However, students may: 1) elect to continue under the requirements outlined in the Catalog at the time of their matriculation to the University or 2) change to follow the General Education requirements of the current Catalog. The choice to apply the new requirements must be declared by students prior to applying for graduation by means of an academic petition.

#### Readmission to the University

Students who are readmitted to the University are bound by the program and degree requirements in effect at the time of readmission, including General Education requirements.

**STUDENTS UNSURE OF WHICH CATALOG TO USE SHOULD CONSULT WITH THEIR ADVISOR.**

Exceptions to these policies may be necessitated by changes in course offerings, degree programs, or by action of University authorities. In that event, every effort will be made to avoid penalizing the student.

#### Catalog Sections

The Undergraduate Catalog is divided into three sections. The first section contains student information about attending the University, such as the academic calendar, the degree programs offered, admission, student conduct, degree requirements and academic policies, and financial information, including tuition and fees and financial aid.

The second (or curriculum) section describes the University's academic programs in detail. The section is organized in alphabetical order by the seven academic colleges, followed by each individual department or program, plus the interdisciplinary School of Data Science, School of Professional Studies, Honors College, and the Office of Undergraduate Education. The section ends with an alphabetical listing of all courses offered by their prefix code.

The third and final section contains information about student life on campus, academic resources, and student services, as well as a faculty directory and glossary of higher education terminology, including definitions specific to UNC Charlotte. Rounding out this section is an index, which is helpful in locating a topic quickly.

# What's New This Year

## New Programs

New undergraduate degrees and programs that appear for the first time in this *Catalog* include:

### Undergraduate Degrees with New Concentration

- Artificial Intelligence, B.S.
- Computer Science, AI-Assisted Software Engineering Concentration, B.A.
- Computer Science, Pre-medical Bioinformatics Concentration, B.A.
- Construction Engineering, B.S.
- Interdisciplinary Studies, Human-Centered AI Concentration, B.A.
- Professional Studies, IT Operations Concentration, B.S.
- Professional Studies, Learning and Development Concentration, B.S.
- Professional Studies, Project Management Concentration, B.S.

### Minor Programs

- AI in Business, Minor
- Artificial Intelligence Fundamentals, Minor
- Global Business Foundations Abroad, Minor
- Construction Management, Minor
- Crime Analytics, Minor
- Sustainability, Minor

### Early Entry Programs

- Artificial Intelligence, M.S., Early Entry
- Artificial Intelligence Systems Development, Graduate Certificate, Early Entry
- Human-Computer Interaction, Graduate Certificate, Early Entry
- Information Security and Privacy, Graduate Certificate, Early Entry
- Management of Information Technology, Graduate Certificate, Early Entry
- Learning, Design, and Technology, Online Learning and Teaching Concentration, M.Ed.
- Learning, Design, and Technology, Training and Development Concentration, M.Ed.
- Learning, Design, and Technology, Training and Development Concentration, Graduate Certificate
- Special Education and Child Development, Child and Family Studies Concentration, M.Ed., Early Entry

## Program Changes

Major changes to existing undergraduate degree programs include:

## Discontinued Programs

Discontinued undergraduate degrees and programs include:

- Criminal Justice, Crime Analytics Concentration, B.A.
- Physics and Computer Engineering, B.S. Dual Degree

## Additional Changes

- Art, Digital Media Concentration, B.F.A. has been renamed to Art, Digital Media and Game Design Concentration, B.F.A.
- Artificial Intelligence, Minor has been renamed to AI Systems Development, Minor
- Child and Family Development, Minor has been renamed to Early Childhood Education and Intervention, Minor.

- Child and Family Development, B.A. has been renamed to Early Childhood Education and Intervention, B.A.
- The College of Health and Human Services has combined the departments of Epidemiology and Community Health and Health Management and Policy into a new department of Public Health and Health Administration.
- The College of Engineering introduced the new Albert School of Construction.
- Computing and Informatics, Honors Program has been renamed to Computing, Honors Program
- The Department of Physics and Optical Science was renamed to the Ishwar Aggarwal Department of Physics and Optical Science.
- English, Pedagogy Concentration, B.A. was renamed to English, Education Concentration, B.A.
- Italian, Minor was renamed to Italian Studies, Minor
- Mathematical Finance, M.S., Early Entry was renamed to Financial Engineering and Fin Tech, M.S., Early Entry
- Mathematics, Statistics Concentration, B.S. was renamed to Mathematics, Statistics and Data Science Concentration, B.S.
- Physics, B.S. and Mechanical Engineering, B.S. Dual Degree has been renamed to Physics, B.A. and Mechanical Engineering, B.S. Dual Degree.
- Urban Youth and Communities, Minor was renamed to Civic Engagement and Youth Leadership, Minor.

## Student Responsibility

Each student is responsible for the proper completion of their academic program, for familiarity with the *Catalog*, for maintaining the grade point average required, and for meeting all other degree requirements. Students assume academic and financial responsibility for the courses in which they enroll and are relieved of these responsibilities only by formally terminating enrollment. The advisor will counsel, but the final responsibility remains that of the student.

A student is required to have knowledge of and observe all policies and regulations pertaining to campus life and student behavior. Students are encouraged to familiarize themselves with academic terminology located in the Glossary section of this *Catalog*.

Email is the official form of communication at the University; each student is responsible for checking their charlotte.edu email regularly, as well as maintaining communication with the University and keeping a current address and telephone number on file with the Office of the Registrar.

While associated with the University, each student is expected to participate in campus and community life in a manner that will reflect favorably upon the student and the University. The University has enacted two codes of student responsibility --**The UNC Charlotte Code of Student Academic Integrity** and **The UNC Charlotte Code of Student Responsibility** -- which are summarized in this *Catalog* and available in full, online at *https://legal.charlotte.edu/chapters/chapter-400-student-and-alumni-matters/*. As students willingly accept the benefits of membership in the UNC Charlotte academic community, they acquire obligations to observe and uphold the principles and standards that define the terms of UNC Charlotte community cooperation and make those benefits possible. This includes completion of institutional surveys as requested by the University for program assessment and improvement.

# *Academic* Programs

# Academic Programs

academics.charlotte.edu

| College and Program | Degree/Certification Awarded | | | |
|---|---|---|---|---|
| | Bachelor's | Minor | Undergraduate Certificate | Graduate Early Entry Program |
| ***College of Arts + Architecture*** | | | | |
| **Architecture**<br>Architectural Studies Concentration, B.A.<br>Practice Concentration, B.A.<br>Pre-Professional Concentration, B.A. | BA | | | |
| **Art**<br>3D Interdisciplinary Studies: Art in Space<br>Art Education<br>Digital Media<br>Illustration<br>Painting<br>Photography<br>Print Media | BA, BFA | | | |
| **Art History** | BA | ✓ | | |
| **Dance**<br>Applied Dance<br>Dance Education<br>Performance, Choreography, and Theory | BA | ✓ | ✓ | |
| **Graphic Design** | BFA | | | |
| **Jazz Studies** | | | ✓ | |
| **Music**<br>Applied Music<br>Composition<br>Contemporary Practices & Cultural Rhetoric<br>Elective Study in an Outside Field<br>Music Education, Instrumental/General<br>Music Education, Choral/General<br>Jazz Studies<br>Performance, Instrumental<br>Performance, Vocal | BA, BM | ✓ | | |
| **Musical Theatre** | | | ✓ | |
| **Theatre**<br>Applied Theatre<br>Design/Tech<br>Directing, Dramaturgy, and Dramatic Writing (3-D)<br>Performance<br>Theatre<br>Theatre Education | BA | ✓ | | |
| ***Belk College of Business*** | | | | |
| **Accounting** | BS | | | ✓ |
| **Business Administration**<br>AI in Business | BSBA | ✓ | | |
| **Business Analytics** | BSBA | | | |
| **Economics**<br>Business<br>Liberal Arts | BS | ✓ | | ✓ |
| **Entrepreneurship** | | | ✓ | |
| **Finance**<br>Finance<br>Finance/Accounting<br>Risk Management and Insurance | BSBA | | | |
| **International Business**<br>Global Business Foundations Abroad | BSBA | ✓ | | |
| **International Management** | | ✓ | | |

# Academic Programs

academics.charlotte.edu

| College and Program | Degree/Certification Awarded | | | |
|---|---|---|---|---|
| | Bachelor's | Minor | Undergraduate Certificate | Graduate Early Entry Program |
| **Management** | BSBA | | | |
| Human Resource Management | | | | |
| Organizational Management | | | | |
| **Management Information Systems** | BSBA | ✓ | | |
| **Marketing** | BSBA | | | |
| Marketing | | | | |
| Digital/AI Marketing | | | | |
| **Operations and Supply Chain Management** | BSBA | ✓ | | |
| ***College of Computing and Informatics*** | | | | |
| **Artificial Intelligence** | **BS** | ✓ | | |
| AI Systems Development | | ✓ | | ✓ |
| Artificial Intelligence Fundamentals | | ✓ | | ✓ |
| Artificial Intelligence Systems Development | | | | |
| **Bioinformatics and Genomics** | | ✓ | | ✓ |
| **Computer Science** | BA, BS | ✓ | | ✓ |
| AI, Robotics, and Gaming | | | | |
| AI-Assisted Software Engineering | | | | |
| Bioinformatics | | | | |
| Cybersecurity | | | | |
| Data Science | | | | ✓ |
| Human-Computer Interaction | | | | ✓ |
| Information Security and Privacy | | | | |
| Information Technology | | | | ✓ |
| Management of Information Technology | | | | |
| Pre-medical Bioinformatics | | | | |
| Software, Systems, and Networks | | | | |
| Web/Mobile Development and Software Engineering | | | | |
| **Cybersecurity** | | | | ✓ |
| **Data Science** | BS | ✓ | ✓ | ✓ |
| **Information Technology** | | | | ✓ |
| **Game Design and Development** | | | ✓ | |
| **Human-Centered Design** | | ✓ | | |
| **Interactive Programming** | | ✓ | | |
| **Software Development** | | ✓ | | |
| **Software Systems** | | ✓ | | |
| ***Cato College of Education*** | | | | |
| **Early Childhood Education and Intervention** | BA | ✓ | | |
| **Collaborative Educators in Inclusive Schools** | | ✓ | | |
| **Elementary Education** | BA | | | ✓ |
| **Foreign Language Education (K-12)** | | ✓ | | ✓ |
| **Global Education, Applied Understandings** | | ✓ | | |
| **Inclusion, Disability, and Exceptionalities in American Society** | | ✓ | | |
| **Learning, Design, and Technology** | | | | |
| Online Learning and Teaching | | | | ✓ |
| Training and Development (M.Ed. or Graduate Certificate) | | | | ✓ |
| **Middle Grades Education** | BA | | | |
| **Reading Education** | | ✓ | | ✓ |
| **Secondary Education** | | ✓ | | |
| **Special Education** | BA | | | |

# Academic Programs

academics.charlotte.edu

| College and Program | Degree/Certification Awarded | | | |
|---|---|---|---|---|
| | Bachelor's | Minor | Undergraduate Certificate | Graduate Early Entry Program |
| Adapted Curriculum | | | | |
| General Curriculum | | | | ✓ |
| Academically or Intellectually Gifted | | ✓ | | |
| Collaborative Educators in Inclusive Schools | | ✓ | | |
| Early Childhood Education and Intervention | | | | ✓ |
| Inclusion, Disability, and Exceptionalities in American Society | | | | |
| Special Education and Child Development, Child and Family Studies | | | | |
| **Special Education \| Elementary Education (dual)** | BA | | | |
| **Teaching English as a Second Language** | | ✓ | | |
| **Teaching: Middle and Secondary Education** | | | | ✓ |
| **Urban Youth and Communities** | | ✓ | | |
| | | | | |
| ***The William States Lee College of Engineering*** | | | | |
| **Construction Management** | BSCM | | | ✓ |
| Applied Energy and Sustainable Systems | | | | |
| Construction Management | | ✓ | | |
| **Construction Engineering** | BSCE | | | |
| Construction and Facilities Engineering | | | | ✓ |
| ***Engineering*** | | | | |
| **Civil Engineering** | BSCE | | | ✓ |
| Energy Infrastructure | | | | |
| Land Development Engineering | | | | |
| **Computer Engineering** | BSCpE | ✓ | | ✓ |
| **Electrical Engineering** | BSEE | ✓ | | ✓ |
| Power and Energy Systems | | | | |
| **Construction Engineering** | BS | | | |
| **Environmental Engineering** | BS | | | |
| **Mechanical Engineering** | BSME | ✓ | | ✓ |
| Aerospace Engineering | | | | |
| Biomedical Engineering | | | | |
| Energy Engineering | | | | |
| Motorsports Engineering | | | | |
| Precision Engineering and Metrology | | | | |
| **Systems Engineering** | BSSE | | | |
| ***Engineering Technology*** | | | | |
| **Civil Engineering Technology** | BSET | | | |
| Applied Energy and Sustainable Systems | | | | |
| **Electromechanical Engineering Technology** | BSET | | | |
| Applied Energy | | | | |
| **Fire and Safety Engineering Technology** | BSET | | | ✓ |
| Fire Safety | | ✓ | | |
| Fire Science | | ✓ | | |
| Occupational Safety | | | | |
| **Mechanical Engineering Technology** | BSET | | | |
| Applied Energy | | | | |
| Electromechanical | | | | |
| | | | | |
| ***College of Health and Human Services*** | | | | |
| **Clinical Research Management** | | | ✓ | |
| **Exercise Science** | BS | | | |
| Health and Fitness | | | | |
| Pre-Professional | | | | |
| Strength and Conditioning | | | | |

# Academic Programs

academics.charlotte.edu

| College and Program | Degree/Certification Awarded | | | |
|---|---|---|---|---|
| | Bachelor's | Minor | Undergraduate Certificate | Graduate Early Entry Program |
| **Health Informatics and Analytics** | | | | ✓ |
| **Health Systems Management** | BS | | | |
| **Nursing** | BSN | | | ✓ |
| RN-to-BSN | | | | |
| **Nutrition** | | | ✓ | |
| **Outdoor Adventure Leadership** | | ✓ | | |
| **Public Health** | BSPH | ✓ | | ✓ |
| **Respiratory Care** | | | | ✓ |
| **Respiratory Therapy** | BSRT | | | ✓ |
| **Social Work** | BSW | | | |
| **Sports Analytics** | | | ✓ | |
| *College of Humanities & Earth and Social Sciences* | | | | |
| **Actuarial Mathematics** | | ✓ | | |
| **Aerospace Studies** | | ✓ | | |
| **Africana Studies** | BA | ✓ | | |
| Health and Environment | | | | |
| Popular Culture and Digital Media | | | | |
| Social Justice and the Law | | | | |
| **Anthropology** | BA | ✓ | | ✓ |
| Applied Anthropology | | | | |
| **American Studies** | | ✓ | | |
| **Arabic Studies** | | ✓ | | |
| **Capitalism Studies** | | ✓ | | |
| **Children's Literature and Childhood Studies** | | ✓ | | |
| **Chinese** | | ✓ | | |
| **Cognitive Science** | | ✓ | | |
| **Communication Studies** | BA | ✓ | | ✓ |
| Communication Studies | | | | |
| Rhetoric, Culture and Social Change | | | | |
| Health Communication | | | | |
| Media & Technology Studies | | | | |
| Organizational Communication | | | | |
| Public Relations | | | | |
| Writing, Rhetoric & Digital Studies | | | | |
| **Criminal Justice** | BA | ✓ | | ✓ |
| Crime Analysis | | | | |
| Crime Analytics | | | | |
| **Comparative Literature and Cultural Studies** | | ✓ | | |
| **Earth and Environmental Sciences** | BS | ✓ | | |
| **English** | BA | ✓ | | ✓ |
| Creative Writing | | | | |
| Language and Digital Technology | | | | |
| Literature and Culture | | | | |
| Pedagogy | | | | |
| **Environmental Studies** | BA | | | |
| Education | | | | |
| **Film Studies** | | | ✓ | |
| **Francophone Studies** | | ✓ | | |

# Academic Programs

academics.charlotte.edu

| College and Program | Degree/Certification Awarded | | | |
|---|---|---|---|---|
| | Bachelor's | Minor | Undergraduate Certificate | Graduate Early Entry Program |
| **French** | BA | ✓ | | |
| Business | | | ✓ | |
| Translating | | | ✓ | |
| **French Education (K-12)** | BA | | | |
| **Geography** | BA, BS | ✓ | ✓ | ✓ |
| Education | | | | |
| **Geology** | BS | ✓ | | |
| **German** | BA | ✓ | ✓ | |
| Business | | | | |
| Education | | | | |
| Translating | | | | |
| **Gerontology** | | ✓ | | ✓ |
| **Global Studies** | BA | ✓ | | |
| Development and Sustainability | | | | |
| Global Cultural Studies | | | | |
| Holocaust, Genocide, and Human Rights | | | | |
| Peace and Conflict | | | | |
| **Health & Medical Humanities** | | ✓ | | |
| **History** | BA | ✓ | | ✓ |
| Education | | | | |
| **Interdisciplinary Studies** | BA | | | |
| Human-Centered AI | | ✓ | | |
| **Italian Studies** | | ✓ | | |
| **Japanese** | BA | ✓ | ✓ | |
| Business | | | | |
| Translating | | | | |
| **Journalism** | | ✓ | | |
| **Languages, Cultures and Translation (LANG)** | | | ✓ | |
| **Latin American Studies** | BA | ✓ | | ✓ |
| **Leadership Studies** | | | ✓ | |
| **Legal Studies** | | ✓ | | |
| **Linguistics** | | ✓ | | |
| **Meteorology** | BS | | | |
| **Military Science** | | ✓ | | |
| **Philosophy** | BA | ✓ | | |
| Pre-Law | | | | |
| **Political Science** | BS | | | |
| Security and Intelligence Systems | | | | |
| **Psychology** | BA | ✓ | | |
| **Public Administration** | | ✓ | | ✓ |
| **Religious Studies** | BS | ✓ | | ✓ |
| **Russian** | | | | |
| Translating | | | ✓ | |
| **Sociology** | | ✓ | | ✓ |
| Organizations, Occupations, and Work | | | | |
| Social Problems and Policy | | | | |
| Sociological Social Psychology | | | | |
| **Spanish** | BA | ✓ | ✓ | ✓ |
| Business | | | | |
| Education | | | | |
| Translating | | | | |

# Academic Programs

academics.charlotte.edu

| College and Program | Degree/Certification Awarded | | | |
|---|---|---|---|---|
| | Bachelor's | Minor | Undergraduate Certificate | Graduate Early Entry Program |
| **Technical and Professional Writing** | | ✓ | | |
| **Urban Studies** | | ✓ | | |
| **Video Production** | | | ✓ | |
| **Women's and Gender Studies** | | ✓ | | |
| | | | | |
| ***Klein College of Science*** | | | | |
| **Biology** | BA, BS | ✓ | | ✓ |
| **Biotechnology** | | ✓ | | |
| **Chemistry**<br>Biochemistry<br>Education | BA, BS | ✓ | | ✓ |
| **Innovative Thinking and Problem Solving** | | | ✓ | |
| **Mathematics**<br>Actuarial Science<br>Statistics and Data Science<br>Education | BA, BS | ✓ | | ✓ |
| **Mathematics for Business** | BA, BS | | | |
| **Physics** | BA | ✓ | | ✓ |
| **Physics \| Computer Engineering (dual)** | BA, BS | | | |
| **Physics \| Electrical Engineering (dual)** | BS | | | |
| **Physics \| Mechanical Engineering (dual)** | BS | | | |
| | | | | |
| **Sports Analytics** | BS | | ✓ | |
| **Health Informatics and Analytics** | BS | | | ✓ |
| | | | | |
| ***School of Professional Studies*** | | | | |
| Professional Studies | BS | | | |
| Project Management<br>IT Operations Concentration, B.S.<br>Learning and Development Concentration, B.S.<br>Project Management Concentration, B.S. | | | | |

# Accreditations

assessment.charlotte.edu/accreditations/accreditation

Accreditation is important for the University to be able to receive and distribute state and federal funds. Also, accreditation is important for the acceptance and transfer of college credits. The Assistant Provost for Institutional Effectiveness and Analytics serves as the accreditation liaison for the University and is responsible for assuring that compliance with accreditation requirements is incorporated into planning and evaluation processes of the institution.

Institutional accrediting bodies, such as the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC), conduct comprehensive reviews of institutions of higher education. This review ensures that "the institution (1) has a mission appropriate to higher education, (2) has resources, programs, and services sufficient to accomplish and sustain that mission, and (3) maintains clearly specified educational objectives that are consistent with its mission and appropriate to the degrees it offers and that indicate whether it is successful in achieving its stated objectives" (Principles of Accreditation: Foundations for Quality Enhancement). The accreditation granted encompasses the entire institution, including all degree programs, instructional sites, and online programs.

## UNC Charlotte

UNC Charlotte is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award baccalaureate, master's, and doctoral degrees. UNC Charlotte also may offer credentials such as certificates and diplomas at approved degree levels. Questions about the accreditation of UNC Charlotte may be directed in writing to the Southern Association of Colleges and Schools Commission on Colleges at 1866 Southern Lane, Decatur, GA 30033-4097, by calling (404) 679-4500, or by using information available on SACSCOC's website (www.sacscoc.org).

The University of North Carolina at Charlotte was reaffirmed by SACSCOC for the next ten years. The decision was made at the December 2023 Annual Meeting of the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC).

## College of Arts + Architecture

The Bachelor of Architecture and Master of Architecture are accredited professional degree programs as recognized by the National Architectural Accrediting Board (NAAB).

The Bachelor of Arts in Art, Bachelor of Fine Arts in Art, Bachelor of Fine Arts in Graphic Design, and Bachelor of Arts in Art History are accredited degree programs as recognized by the National Association of Schools of Art and Design (NASAD).

The Bachelor of Arts in Music and Bachelor of Music are accredited degree programs as recognized by the National Association of Schools of Music (NASM).

The University of North Carolina at Charlotte is an accredited institutional member of the National Association of Schools of Dance (NASD).

All arts education programs leading to K-12 licensure (art, dance, music, and theatre education) are accredited by their national accrediting body (the National Association of Schools of Art and Design, National Association of Schools of Dance, National Association of Schools of Music, and National Association of Schools of Theatre) and approved as Educator Preparation Programs by the North Carolina Department of Public Instruction (NCDPI).

## College of Business

The programs in business and accounting are accredited by AACSB International, the Association to Advance Collegiate Schools of Business. AACSB International is the premier accrediting agency for bachelor's, master's, and doctoral degree programs in business administration and accounting.

## College of Education

The College's professional education programs for BK-12 teachers, counselors, and administrators are approved by the North Carolina Department of Public Instruction (NCDPI) and accredited by the Council for the Accreditation of Educator Preparation (CAEP).

Counseling programs in Counselor Education are accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP).

## College of Engineering

The baccalaureate programs in civil, computer, electrical, mechanical, and systems engineering are accredited by the Engineering Accreditation Commission of ABET, www.abet.org.

The civil, electrical, and mechanical engineering technology baccalaureate programs are accredited by the Engineering Technology Accreditation Commission of ABET, www.abet.org.

The construction management baccalaureate program is accredited by the Engineering Technology Accreditation Commission and the Applied and Natural Science Commission of ABET, www.abet.org.

## College of Health and Human Services

The baccalaureate degree in nursing/master's degree in nursing/Doctor of Nursing Practice and/or post-graduation APRN certificate at the University of North Carolina at Charlotte is accredited by the Commission on Collegiate Nursing Education (www.ccneaccreditation.org).

The undergraduate nursing programs are approved by the North Carolina Board of Nursing.

The Nursing Anesthesia program is accredited by the Council on Accreditation of Nurse Anesthesia Education Programs (COA).

The Exercise Science program is accredited by the Commission on Accreditation of Allied Health Education Programs (www.caahep.org) upon the recommendation of the Commission on Accreditation for the Exercise Sciences (CoAES).

The Clinical Exercise Physiology concentration of the Master of Science in

Kinesiology is accredited by the Commission on Accreditation of Allied Health Education Programs (www.caahep.org) upon the recommendation of the Commission on Accreditation for the Exercise Sciences (CoAES).

The Bachelor of Science in Respiratory Therapy (program #500001) and Master of Science in Respiratory Care (program #520001) at UNC Charlotte have been provisionally accredited by the Commission on Accreditation for Respiratory Care (coarc.com). CoARC accredits respiratory therapy education programs in the United States. To achieve this end, it utilizes an 'outcomes-based' process. Programmatic outcomes are performance indicators that reflect the extent to which the educational goals of the program are achieved and by which program effectiveness is documented (coarc.com/students/programmatic-outcomes-data).

The Master of Health Administration program is accredited by the Commission on Accreditation of Healthcare Management Education (CAHME).

The Public Health programs (BSPH, MPH, Ph.D. in Public Health Sciences, and Ph.D. in Health Services Research) are accredited by the Council on Education for Public Health (CEPH).

Both the Bachelor of Social Work (BSW) and the Master of Social Work (MSW) are accredited by the Council on Social Work Education (CSWE).

## College of Humanities & Earth and Social Sciences

The Public Relations program within the Department of Communication Studies is certified by the Public Relations Society of America (PRSA).

The Clinical Psychology program within the Ph.D. in Health Psychology is accredited by the American Psychological Association (APA).

The Master of Public Administration program is accredited by the National Association of Schools of Public Affairs and Administration (NASPAA).

## Klein College of Science

The Department of Chemistry is on the approval list of the American Chemical Society.

## Graduate School

The University is a member of the Council of Graduate Schools, the Conference of Southern Graduate Schools, and The North Carolina Conference of Graduate Schools.

# *About* the University

# The University of North Carolina System

www.northcarolina.edu

In North Carolina, all of the public educational institutions that grant baccalaureate degrees are part of The University of North Carolina System. The oldest public university system in the nation, UNC traces its roots to the state's 1776 constitution, which held that "All useful Learning shall be duly encouraged and promoted in one or more Universities." Today, nearly 225,000 students are enrolled on 16 university campuses across the state and at the NC School of Science and Mathematics, the country's first public, residential high school for gifted students.

## History

Chartered by the North Carolina General Assembly in 1789, the University of North Carolina was the first public university in the United States to open its doors and the only one to graduate students in the eighteenth century. The first class was admitted in Chapel Hill in 1795. For the next 136 years, the only campus of the University of North Carolina was at Chapel Hill.

Additional institutions of higher education, diverse in origin and purpose, began to win sponsorship from the General Assembly beginning as early as 1877. Five were historically black institutions, and another was founded to educate Native Americans. Some began as high schools. Several were created to prepare teachers for the public schools. Others had a technological emphasis. One is a training school for performing artists.

The 1931 session of the General Assembly redefined the University of North Carolina to include three state-supported institutions: (1) the campus at Chapel Hill (now the University of North Carolina at Chapel Hill), (2) North Carolina State College (now North Carolina State University at Raleigh), and (3) Woman's College (now the University of North Carolina at Greensboro). The new multi-campus University operated with one board of trustees and one president. By 1969, three additional campuses had joined the University through legislative action: (4) the University of North Carolina at Charlotte, (5) the University of North Carolina at Asheville, and (6) the University of North Carolina at Wilmington.

In 1971, legislation was passed bringing into the University of North Carolina the state's ten remaining public senior institutions, each of which had until then been legally separate: (7) Appalachian State University, (8) East Carolina University, (9) Elizabeth City State University, (10) Fayetteville State University, (11) North Carolina Agricultural and Technical State University, (12) North Carolina Central University, (13) the North Carolina School of the Arts (now the University of North Carolina School of the Arts), (14) Pembroke State University (now the University of North Carolina at Pembroke), (15) Western Carolina University, and (16) Winston-Salem State University.

In 1985, the NC School of Science and Mathematics was declared an affiliated school of the University; in July 2007, NCSSM by legislative action became a constituent institution of the University of North Carolina.

## Board of Governors

The UNC Board of Governors is the policy-making body charged with "the general determination, control, supervision, management, and governance" of the University of North Carolina. Its 28 voting members are elected by the NC General Assembly for four-year terms. Former board chairs may continue to serve for limited periods as non-voting members emeriti. The president of the UNC Association of Student Governments or that student's designee is also a non-voting member.

## President and UNC System Office

The chief executive officer of the University of North Carolina System is the President. The President is elected by and reports to the Board of Governors. The President's office is the operations level between the constituent institutions and the Board of Governors. The President has complete authority to manage the affairs and execute the policies of the University of North Carolina and its constituent institutions, subject to the direction and control of the Board of Governors.

## Chancellors

Each of the UNC campuses is headed by a Chancellor who is chosen by the Board of Governors on the President's nomination and is responsible to the President.

## Board of Trustees

Each UNC campus has a local Board of Trustees that holds extensive powers over academic and other operations of its campus on delegation from the Board of Governors.

## Shared Governance

The UNC System operates under an arrangement of shared governance that leverages the collective strengths of its campus chancellors and administrators, local boards of trustees, and the UNC President and Board of Governors. The UNC System also honors the important traditional role of the faculty in the governance of the academy.

# History of the University of North Carolina at Charlotte

www.charlotte.edu

UNC Charlotte is one of a generation of universities founded in metropolitan areas of the United States immediately after World War II in response to rising education demands generated by the war and its technology.

To serve returning veterans, North Carolina opened 14 evening college centers in communities across the state. The Charlotte Center opened Sept. 23, 1946, offering evening classes to 278 freshmen and sophomore students in the facilities of Charlotte's Central High School. After three years, the state closed the centers, declaring that on-campus facilities were sufficient to meet the needs of returning veterans and recent high school graduates.

Charlotte's education and business leaders, long aware of the area's unmet needs for higher education, moved to have the Charlotte Center taken over by the city school district and operated as Charlotte College, offering the first two years of college courses. Later the same leaders asked Charlotte voters to approve a two-cent tax to support that college.

Charlotte College drew students from the city, Mecklenburg County and from a dozen surrounding counties. The two-cent tax was later extended to all of Mecklenburg County. Ultimately financial support for the college became a responsibility of the State of North Carolina.

As soon as Charlotte College was firmly established, efforts were launched to give it a campus of its own. With the backing of Charlotte business leaders and legislators from Mecklenburg and surrounding counties, land was acquired on the northern fringe of the city and bonds were passed to finance new facilities. In 1961, Charlotte College moved its growing student body into two new buildings on what was to become a 1,000-acre campus 10 miles from downtown Charlotte.

Three years later, the North Carolina legislature approved bills making Charlotte College a four-year, state-supported college. The next year, 1965, the legislature approved bills creating the University of North Carolina at Charlotte, the fourth campus of the statewide university system. In 1969, the University began offering programs leading to master's degrees. In 1992, it was authorized to offer programs leading to doctoral degrees.

Today, with an enrollment ranking it third among the 17 schools in the UNC system, it is the largest public university in the greater Charlotte metropolitan region. A doctoral institution, UNC Charlotte serves the region through applied research, knowledge transfer, and engaged community service.

Nearly 1,100 full-time teaching faculty comprise the University's academic departments, and the Fall 2024 enrollment was over 31,000 students, including over 6,200 graduate students.

# Mission, Vision, and Values of UNC Charlotte

chancellor.charlotte.edu/institutional-planning/mission-statement

## University Mission Statement

UNC Charlotte is a leading urban research university with a significant local-to-global impact. We transform lives, communities, and industries through accessible and affordable education, offering exemplary bachelor's, master's, doctoral, and professional programs. Our commitment to scholarship, innovation, and service drives our contributions to the ever-evolving needs of society. Through strategic partnerships and a focus on real-world applications, we prepare our graduates to excel in their careers and lead with purpose and integrity in a rapidly changing world. See the Mission Statement at https://chancellor.charlotte.edu/about-unc-charlotte/mission-statement/.

## University Vision and Values

In fulfilling our mission, we envision a University that promises:

- An accessible and affordable quality education that equips students with intellectual and professional skills, ethical principles, and an international perspective.
- A strong foundation in liberal arts and opportunities for experiential education to enhance students' personal and professional growth.
- A robust intellectual environment that values social and cultural diversity, free expression, collegiality, integrity, and mutual respect.

- A safe, diverse, team-oriented, ethically responsible, and respectful workplace environment that develops the professional capacities of our faculty and staff.

To achieve a leadership position in higher education, we will:

- Rigorously assess our progress toward our institutional, academic, and administrative plans using benchmarks appropriate to the goals articulated by our programs and in our plans.
- Serve as faithful stewards of the public and private resources entrusted to us and provide effective and efficient administrative services that exceed the expectations of our diverse constituencies.
- Create meaningful collaborations among university, business, and community leaders to address issues and opportunities of the region.
- Develop an infrastructure that makes learning accessible to those on campus and in our community and supports the scholarly activities of the faculty.
- Pursue opportunities to enhance personal wellness through artistic, athletic, or recreational activities.
- Operate an attractive, environmentally responsible and sustainable campus integrated with the retail and residential neighborhoods that surround us.

*Approved by the Board of Governors on April 11, 2014.*

# Graduation Rate Disclosure Statement

Our data shows that 67.6% of the full-time new freshmen who entered UNC Charlotte in Fall 2017 have received a baccalaureate from UNC Charlotte as of Fall 2023. In addition, another 1.5% were enrolled at UNC Charlotte in pursuit of their baccalaureate degree as of Fall 2023. This information is provided pursuant to requirements of the Student Right-to-Know and Campus Security Act of 1990.

# Nondiscrimination

The University of North Carolina at Charlotte is committed to providing a respectful, safe, and inclusive environment for all University community members and guests of the University. The University affirms that its educational and employment decisions must be based on the abilities and qualifications of individuals and may not be based on irrelevant factors, including personal characteristics, that have no connection with academic abilities or job performance. Therefore, the University prohibits discrimination and discriminatory harassment in its educational and employment decisions and provides equal opportunities for all members of the University community and for all those seeking to join the University community.

The following factors may not form the basis for educational or employment-related decisions: race; color; religion, including belief and non-belief; sex, including but not limited to pregnancy, childbirth, or related medical condition, and parenting; sexual orientation; gender identity; age; national origin; physical or mental disability; veteran status; and genetic information. Further, all members of the University community are prohibited from harassing individuals on the basis of any of these factors. See University Policy 501, Nondiscrimination, at legal.charlotte.edu/policies/up-501.

Anyone may report alleged violations of University Policy 501 to the University's Office of Civil Rights and Title IX. All University employees are expected to report alleged violations of this Policy to the University's Office of Civil Rights and Title IX and may be subject to disciplinary action, up to and including dismissal, for failing to report.

For complaints of Title IX Sexual Harassment (as that term is defined by University Policy 504, Title IX Grievance Policy) against a student, faculty member, or staff member, see University Policy 504, Title IX Grievance Policy.

The University's Office of Civil Rights and Title IX will contact the individual who reportedly experienced a violation of this Policy and discuss with the individual available accommodations, resources, and resolution options. The University's Office of Civil Rights and Title IX will assist the individual in utilizing the applicable University process for that individual's report, as set forth on the Office of Civil Rights and Title IX website.

The University strictly prohibits retaliation against individuals for reporting alleged violations of federal law or for cooperating in the University's investigation of alleged violations of federal law. Retaliation includes threatening, intimidating, or coercive behaviors and other adverse actions that would deter a reasonable person in the same or similar circumstances from reporting alleged violations of federal law or cooperating in the University's investigation of any such report, even if the behaviors do not ultimately have that effect.

If you have discrimination concerns, please see the UNC Charlotte Notice of Nondiscrimination for the contact information of individuals who may assist you. This notice and the University's grievance procedures for making a complaint of discrimination may be found online at the Office of Civil Rights and Title IX: https://civilrights.charlotte.edu/resources-university-policies/notice-nondiscrimination.

# University Structure

UNC Charlotte is organized into five administrative divisions: Academic Affairs, Business Affairs, Institutional Integrity, Student Affairs, and University Advancement. These divisions, as well as Athletics, OneIT, and Research all report to the Chancellor.

## Academic Affairs

The Division of Academic Affairs provides administrative oversight and academic leadership. It includes Academic Budget & Personnel; Center

for ADVANCing Faculty Success; Enrollment Management; the Graduate School; the Honors College; Institutional Effectiveness and Analytics; International Programs; the Library; Office of Undergraduate Education; School of Professional Studies; urbanCORE; the Honors College, and the eight discipline-based academic colleges: the Colleges of Arts + Architecture, Business, Computing and Informatics, Education, Engineering, Health and Human Services, Humanities & Earth and Social Sciences, and Science.

## Business Affairs

Business Affairs plans for and provides essential human, financial, facility, and administrative support services to the University that are customer-focused, results-oriented, fiscally sound, and integrity-bound. The Division of Business Affairs includes Business Services; Facilities Management; Financial Services; Human Resources; Safety and Security; and Budget.

## Institutional Integrity

The Division of Institutional Integrity supports UNC Charlotte in its endeavors to achieve its academic mission and strategic plan while adhering to the University's ethical, legal, and regulatory responsibilities. The Division of Institutional Integrity consists of the Office of Legal Affairs, the Office of Ethics, Policy, and Compliance, the Office of Civil Rights and Title IX, the Internal Audit Department, and the Enterprise Risk Management Department.

## Student Affairs

The Division of Student Affairs advances the educational mission of the University by creating welcoming, student-centered learning environments where students excel academically and develop personally into their best selves. The Division of Student Affairs consists of Basic Needs Services; Counseling and Psychological Services (CAPS); Center for Integrated Care; Center for Wellness Promotion; Cone University Center; Dean of Students Office; Housing and Residence Life; Leadership & Community Engagement; Niner Finances; Office of Fraternity and Sorority Life; Popp Martin Student Union; Student Accountability & Conflict Resolution; Student Affairs Marketing & Communications; Student Affairs Research & Assessment; Student Assistance and Support Services; Student Health; Student Involvement; Student Niner Media; Advising and Support; Transition & Success Initiatives; UNC Charlotte Student Legal Services, Inc.; University Recreation; Venture Outdoor Leadership; and Veteran Services.

## University Advancement

The Division of University Advancement supports the mission of the University by cultivating alumni, community, and government support and affinity, by raising funds for scholarships and major initiatives, by providing and coordinating community engagement opportunities, and by providing broad based communications leadership that articulates the mission of the University to the region, state and nation. The Division includes Advancement Operations, Alumni Engagement, Development, University Communications, and University Events & Special Programs.

# Campuses

## Main Campus

The University of North Carolina at Charlotte is the largest institution of higher education in the Charlotte region and is a genuine urban university. The main campus is in University City, one of the fastest growing areas of the Charlotte region, located off WT Harris Boulevard on NC 49 near its intersection with US 29, and only eight miles from the interchange of Interstates 85 and 77. Campus facilities are comprised of contemporary buildings, including many constructed in the past ten years and more on the way. In addition to classrooms and well-equipped laboratories, the University offers arts and athletic facilities, dining facilities, and residence accommodations. The campus is designed for the pedestrian, and facilities are generally accessible to students with disabilities.

## Dubois Center at UNC Charlotte Center City

The Dubois Center at UNC Charlotte Center City functions as a gateway between the city of Charlotte and the University and as such embodies UNC Charlotte's urban identity in the heart of the greater Charlotte region.

Home to the School of Professional Studies, the building bustles with working professionals and adult learners who are able to conveniently access continuing education programs ranging from 1-day workshops, to short-format certificates and boot camps, to degrees.

In addition to professional programming, The Dubois Center facilitates academic programs having an urban awareness and context, while providing vital learning opportunities for employees and residents of the urban center.

Architecturally, it reflects its mission as a premier institution of higher education; its context in this vibrant, rapidly urbanizing area; and its commitment to environmental sustainability.

Operationally, it incorporates the attributes we wish to instill in the entire University: excellence in programming, responsiveness to stakeholders, entrepreneurship, interdisciplinary productivity, inclusivity, flexibility, and efficiency.

# Academic Buildings

## Albert & Freeman EPIC

The Energy Production and Infrastructure Center (EPIC) at UNC Charlotte was formed in response to the need from industry to supply highly trained engineers qualified to meet the demands of the energy industry – through traditional and continuing education, and provide sustainable support to the Carolina energy industry by increasing capacity and support for applied research. EPIC is a highly collaborative industry/education partnership that produces a technical workforce, advancements in technology for the global energy industry while supporting the Carolinas' multi-state economic and energy security. It was dedicated on November 16, 2012.

In October 2020, the EPIC building was named the Albert & Freeman Energy Production and Infrastructure Center to recognize and honor alumni Craig and Darla Albert. The generosity of the Alberts, especially throughout Exponential: The Campaign for UNC Charlotte, established both the Albert Engineering Leadership Scholars program and the Freeman Scholarship, both housed in the University's Honors College.

The Albert Engineering Leadership Scholars Program, administered by the Honors College, invests in superior students who have demonstrated excellence in the areas of academic achievement, leadership and community engagement. Albert Scholars serve as the next generation of leaders who will make dynamic contributions to the field of engineering. The program offers students a full, four-year scholarship, along with academic support and the professional guidance necessary to achieve their educational and professional goals.

The Freeman Scholarship, also administered by the Honors College, provides renewable scholarship support to students pursuing any major who are eligible for one of the University's honors programs. The Freeman Scholarship is open to incoming first-year students eligible for a Federal Pell Grant or other federal grant aid programs. The scholarship places a strong emphasis on commitment to academics.

Craig Albert earned a bachelor's degree in mechanical engineering from the Lee College of Engineering in 1985 and currently serves as president and chief operating officer of Bechtel Group Inc., the largest engineering and construction firm in the United States. He is responsible for the management and oversight of the firm's global operations and serves on the company's board of directors. Darla Albert earned a bachelor's degree in business administration from UNC Charlotte's Belk College of Business in 1983.

EPIC is home to the Department of Civil and Environmental Engineering and Department of Electrical and Computer Engineering.

## Atkins Library

The J. Murrey Atkins Library, the third building to be constructed on the UNC Charlotte campus, is named for J. Murrey Atkins, the son of a prominent Gastonia family, successful Charlotte businessman and one of the University's founding members.

Atkins, born in Russellville, Kentucky, graduated from Gastonia High School. At Duke University, he served as editor of the yearbook and earned a bachelor's degree in 1927. He attended Harvard Law School and Columbia University and spent five years in New York with the Irving Trust Co. before returning to Charlotte. In 1935, he joined the city's leading investment firm R.S. Dickson and Co., where he was president from 1954 until his death.

Atkins was involved with Charlotte College from its inception. He was chair of the college advisory committee for eight years and chair of the Charlotte Community College System when it was authorized in 1958. When UNC Charlotte became a four-year college, he served as chair of the Board of Trustees.

Sensitive to the social and educational needs of the community, Atkins believed that the Charlotte region needed a public institution of higher learning to stay competitive with other cities in the state. He used his business, financial and political contacts to help Charlotte College become that institution. "Charlotte College was started to meet an emergency and has continued as a necessity," Atkins was fond of saying.

Charlotte College shared a library facility with Central High School. Mozelle Scherger was hired as the first full-time librarian in 1957, when a daytime instructional program was launched. When the college was formally accredited that fall, the number of volumes in the library exceeded 6,000.

Atkins believed the library should be central on the campus, central in student service and the very focal point of learning. When the library was first moved to the new campus, it was temporarily housed in the W. A. Kennedy Building.

The pioneering leader would not live to see the current library adorned with his name. He died Dec. 2, 1963, and the J. Murrey Atkins Library was dedicated on April 19, 1965. The state legislature appropriated $20.5 million for an expansion in 1995. It was re-dedicated in 2001.

### Dalton Library Tower

The Harry L. Dalton Library Tower was completed and dedicated in 1971, and re-dedicated in 2001. It is named in honor of Harry Lee Dalton, distinguished Charlotte business leader and patron of the arts, whose gifts stimulated the development of the Library's Special Collections.

## Barnard

The Barnard Building was completed in 1969. It is named in honor of Bascom Weaver Barnard, a founder and first chairman of The Charlotte College Foundation, and first executive director of The Foundation of the University of North Carolina at Charlotte.

Bascom "Barney" Weaver Barnard established the Charlotte College Foundation and served as its first chair. His name features prominently in the early years of UNC Charlotte, and it adorns an 18,000 square-foot building completed in 1969, designed to serve as a facility for instruction and research.

Born Feb. 14, 1894, Barnard was a native of Asheville. He graduated from Trinity College (now Duke University) and completed a master's degree from Princeton University in 1917. He returned to his alma mater, where he taught economics and served as alumni secretary and graduate manager of athletics until 1922. He eventually left academia for the private sector.

Starting in 1939, Barnard worked as an executive for American Commercial Bank (later NCNB, now Bank of America), American Discount Company and the American Credit Corporation while maintaining a busy roster of civic activities. He served on the board for Family and Children Service, the Salvation Army and as chair of the National Affairs Committee of the Charlotte Chamber of Commerce. In 1966, he received one of Charlotte's highest civic honors - the Civitan Distinguished Citizenship Award.

In that same year, Barnard founded Charlotte College Foundation, which by 1971 had raised $4.5 million for the fledgling University; since then, the foundation has since raised significantly more to support scholarship and academic programming at UNC Charlotte. He served as the foundation's secretary and executive director and established the University's Patrons of Excellence Program, which solicited gifts of $10,000 or more from individuals, foundations and corporations.

On May 30, 1971, the UNC Charlotte Academic Council presented Barnard with a resolution stating "Scholarships, professorships, research grants, additions to the library collection, faculty recruitment – all these and more have flourished at his hand. In short, he has helped to provide the margin that leads to excellence." Barnard died Sept. 27, 1980.

The Barnard building is one of the five buildings that make up the original quad of UNC Charlotte. Today, Barnard is home to the Department of Anthropology, Adult Students and Extended Services, and Veteran Student Services.

## Bioinformatics

The Bioinformatics Research Center opened in 2009 as a teaching and research building located on West Campus. It is a multifunctional facility which fosters an interdisciplinary academic and entrepreneurial program. The center also supports the nearby "Biopolis" (the North Carolina Research Center) through biotechnology efforts in plant genomics, health, and gene-related research.

The Bioinformatics Building is home to the Department of Bioinformatics and Genomics.

## Cameron

The C.C. Cameron Applied Research Center recognizes an individual whose civic and business leadership contributed to the development of UNC Charlotte and the entire UNC system.

Clifford Charles Cameron was born in Meridian, Miss. He later attended Louisiana State University, where he completed a bachelor's degree in chemical engineering in 1941. Following service in World War II, he worked as an engineer for Standard Oil Co. At the urging of a war buddy, Cameron changed careers and became a mortgage banker in 1949. He entered this relatively new field with the creation of Cameron Mortgage Co. in Raleigh. The company merged with Brown-Hamel Mortgage Co. of Greensboro in 1955 and acquired the Carolina Realty Co. of Charlotte. This was the beginning of the Cameron-Brown Co. that would later combine with First Union.

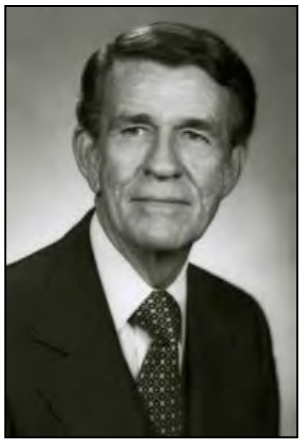
Following that merger, Cameron moved to Charlotte, where he became chief executive officer of First Union in 1968. His affiliation with UNC Charlotte dates to 1967, when Cameron became a member of the board of directors of the UNC Charlotte Foundation. In the early 1980s, Cameron co-chaired UNC Charlotte's first capital campaign and played a leadership role in the University's Silver Anniversary Campaign. He also served on the UNC Charlotte Board of Trustees and the UNC Board of Governors.

Through his involvement with the UNC Charlotte Foundation, Cameron is credited with helping to create University Place and the subsequent economic development that resulted. He also played a part in the development of the Ben Craig Center.

Chancellor emeritus E.K. Fretwell noted in a magazine article that "Cliff Cameron personifies corporate responsibility...He is giving of his management expertise, his leadership, his great prestige and his personal attention to assist the University of North Carolina at Charlotte in its quest for excellence."

Before retiring as First Union chair in 1984, Cameron laid the groundwork for its growth as one of the nation's top 20 banks. Committed to public service, Cameron served as an advisor to North Carolina governors for four decades. He was a member of Gov. Luther Hodge's Business Development Corp., Gov. Dan Moore's Council for Economic Development; Gov. Bob Scott's Conservation and Development Board and Gov. Hunt's Advisory Budget Commission and Transportation Study Commission. Under Gov. James Martin, Cameron served as an assistant for budget and management.

One of the University's most prestigious scholarships bears the name of C.C. Cameron in recognition of First Union's and his personal contributions that made the financial assistance possible. In honor of his service to the University and the state, UNC Charlotte awarded Cameron an honorary Doctor of Public Service in 1983.



Completed in 1990 and dedicated on September 25, 1991, the Cameron Applied Research Center contained roughly 74,000 square feet of laboratory, office, and conference space to support world-class research. At the time, the center was the focal point for the University's outreach mission to the region. It provided businesses, agencies and organizations access to academic and applied research expertise. A multipurpose facility, the center was designed for maximum flexibility to accommodate evolving research projects. It features vibration-free spaces, a 96-seat auditorium and a media center equipped for teleconference and distance learning.

In 2000, the center was renovated and expanded to add roughly 42,000 square feet of space.

Today, the building is known as Cameron Hall and is home to the University Writing Program, Writing Resources Center, and Department of Systems Engineering and Engineering Management.

## Cato

Dedicated May 6, 2004, Cato Hall is often the first point of contact for prospective students interested in enrolling at the state's urban research institution. Named for Wayland H. Cato Jr., the building houses the Chancellor's Office, Enrollment Management, Institutional Integrity, Office of Academic Affairs, and the Office of Assessment and Accreditation.

A distinguished business leader and philanthropist, Cato was born in Ridge Spring, S.C., in 1923. His father, Wayland Cato Sr. worked for United Merchants and Manufacturers (UM&M), a New York-based textile conglomerate. The elder Cato moved his family to Augusta, Ga., in 1937, where the younger Cato attended the Academy of Richmond County, a compulsory ROTC military public school. He graduated with honors in 1940.

Cato Jr. enrolled at UNC-Chapel Hill and was elected to Beta Gamma Sigma, a national honorary scholastic commerce fraternity. He also joined the Naval Reserve Officers Training Corps. In 1944, Cato graduated in the top three percent of his class with a bachelor's degree in commerce.

During World War II, he served nearly three years on active duty in the U.S. Navy, stationed aboard minesweepers in the Pacific Theatre.

Following his discharge, Cato joined his father and other family members in Charlotte. The elder Cato had left UM&M to start his own business, which became the Cato Corporation, a chain of women's apparel stores. Cato Jr. became president and chief executive officer of the family business in 1960. He added the title chair of the board of directors in 1970. He retired as chair emeritus in 2004; his son John Cato was named CEO in 1999.

From 1995 to 2002, Cato Jr. was a director of the UNC Charlotte Foundation. Personally and corporately, he endowed a number of scholarship programs at the University. For his leadership in business in the Carolinas and service to the nation, state and community and for his commitment to learning and scholarship, Cato was awarded an honorary Doctor of Humane Letters during commencement in May 2002.

Conceived as the Humanities Office Wing, Cato Hall originally housed Undergraduate Admissions and the Graduate School, along with the Development Office and the departments of Communication Studies and Social Work. The three-story, 32,500-square-foot facility was built for $5.1 million using bonds approved by state voters in 2000 and other University funds.

## Colvard

The Colvard Building opened in 1979, and its steel-frame and curtain-wall construction and many energy saving features were considered progressive for its time. Harry Wolf of Wolf Associates designed the structure, and he won the 1980 South Atlantic Regional AIA Honor Award for his work. Among the energy-saving features Wolf utilized were vermiculite insulate roofing, insulated walls and a heat reclaimer. Also, the center arcade was designed for the horizontal and vertical movement of students in a space that did not need to be heated or cooled.

While many of Wolf's design techniques are common today, 30 years ago they were considered forward-thinking. It is appropriate such a building honors Dean Wallace Colvard, UNC Charlotte's first permanent chancellor, a man considered ahead of his time in many respects.

Born in 1913, Colvard was raised in the mountains of western North Carolina in Ashe County. President and salutatorian of his high school class, Colvard was the first member of his family to attend an institution of higher learning. He started at Berea College in 1931, where he earned a scholarship. He also met Martha Lampkin; they would wed in the college's Danforth Chapel in 1939.

After completing his undergraduate degree, Colvard earned a master's degree in endocrinology from the University of Missouri and a doctorate in agricultural economics from Purdue University. He also served as superintendent of North Carolina Agricultural Research Stations from 1938-46. In 1948, Colvard was hired to run North Carolina State University's animal science program. Five years later, he became the dean of agriculture, a post he held until 1960, when he became president of Mississippi State University (MSU), where he unintentionally became part of college sports history. MSU had won three straight Southeastern Conference championships, but the institution declined to participate in the NCAA tournament rather than integrate, even briefly, on the basketball court. In 1963, Colvard defied a court injunction and allowed the MSU basketball team to compete in the tournament against a team with African-American players.

Colvard returned to his native state in 1966 after being named chancellor of UNC Charlotte. He embraced the challenge of turning a pioneering junior college into a university that had become the fourth member of the consolidated UNC system. As chancellor, he secured regional and national accreditation for University programs, helped create the University Research Park, added graduate programs, expanded the campus and oversaw the growth of the student body from 1,700 to 8,705 students.

He retired Dec. 31, 1978, but Colvard did not leave education behind. He helped build two other institutions: the School of Science and

Mathematics at Durham and the hands-on museum Discovery Place. He died June 28, 2007.

Today, Colvard is home to the Departments of Communication Studies, Criminal Justice and Criminology, and Psychological Science; Organizational Science, School of Data Science, Office of Undergraduate Education, University Advising Center, University College, School of Professional Studies, and the University Center for Academic Excellence.

## Cone University Center

Since first opening its doors in 1962, the Cone University Center has been a gathering place for students, faculty, staff, administrators, alumni and guests. As such, it is fitting that the facility bears the name of Bonnie Ethel Cone, the beloved mathematics teacher and visionary administrator who, perhaps more than anyone else, is credited as UNC Charlotte's founder.

Born June 22, 1907, in Lodge, S.C, "Miss Bonnie," as she was affectionately called, taught high school in South Carolina for 12 years before moving to Charlotte's Central High School in 1940. During World War II, she taught math to men enrolled in the navy's V12 program at Duke University, and she spent a year working as a statistical analyst for the Naval Ordnance Laboratory in Washington, D.C.

Cone's background made her the perfect person to head one of the new extension centers established in the late 1940s to serve returning war veterans. Cone directed the Charlotte Center and signed on as a part-time instructor in engineering and math.

Always a firm believer that Charlotte needed a public university, Cone was determined to see one built in the Queen City. She helped turn the temporary veteran's center into a permanent two-year college. In 1963, she played a key role in convincing the North Carolina General Assembly to make Charlotte College a part of the University of North Carolina system. On July 1, 1965, Bonnie Cone stood beside Gov. Dan Moore to ring the bell announcing the official creation of the University of North Carolina at Charlotte.

"Miss Cone has provided the faith on which the college many times found its primary ability to exist," said J. Murrey Atkins in a tribute. "She has stuck with it and never even thought of giving up when sometimes the sledding seemed pretty hard."

Cone served as acting chancellor for nine months and remained committed and loyal to UNC Charlotte. She served as vice chancellor for student affairs and community relations until she retired in 1973. On June 29, as part of her retirement service, the UNC Charlotte Board of Trustees named the University Center in her honor. In retirement, Cone continued to raise money and support the University until her death in 2003.

Today, Cone is home to Niner Central, University Scholarship Office, Office of Fraternity and Sorority Life, Student Assistance and Support Services, Cone Center Conferences, College of Computing & Informatics, and Main Street Market.

## Denny

In 1965, a new campus facility designed by Odell Associates was completed at a cost of $569,000. Five years later, the building was dedicated in honor of Mary Rebecca Denny, chair of the UNC Charlotte English Department for 14 years.

Denny was born on Aug. 12, 1896, on the family farm near the small town of Red Springs, N.C. She attended Salem College and taught English in several public schools in eastern North Carolina after completing her bachelor's degree in 1917. She went on to earn a master's degree from Duke University and become associate professor of English at Queens College. She left

Queens in 1946 to become the first full-time faculty member at the Charlotte Center of the University of North Carolina (now UNC Charlotte).

Although the Charlotte Center was created to serve in an emergency situation, Denny believed that it would eventually provide more than a temporary opportunity for its students. She was right as the Charlotte Center became Charlotte College, one of the first two-year community colleges in North Carolina, in 1949.

During the next 15 years, Denny completed an impressive list of initiatives, including the creation of the college newspaper, the literary magazine and the college catalog. When Charlotte College became a four-year institution, Denny relinquished her role as department head, but she remained active with the Curriculum Committee. She retired in 1964, with the distinction of being the institution's first professor emeritus.

At the October 9, 1970, dedication ceremony naming what was then the largest classroom building in her honor, UNC Charlotte trustees enthusiastically paid tribute - "We transform glass, steel and stone into a monument to your spirit – forthright, steadfast, energetic and humanitarian. May this building forever serve as a reminder of your commitment to the ideals of sound scholarship, integrity and excellence."

Following her retirement, Denny returned to her family home in Red Springs, where she resided until her death in 1979.

The Denny building is one of the five buildings that make up the original quad of UNC Charlotte.

## Dubois

With the retirement of UNC Charlotte's fourth chancellor in 2020, the University's Center City Building was renamed The Dubois Center at UNC Charlotte Center City (The Dubois Center) to recognize Chancellor Philip L. Dubois and First Lady Lisa Lewis Dubois. The building is regarded as a centerpiece to Dubois' 15-year term as chancellor.

Dubois' career in higher education spans more than 40 years. As a first-generation college student, he earned a bachelor's degree in political science in 1972 from the University of California, Davis, and a master's (1974) and doctoral (1978) degree in political science from the University of Wisconsin-Madison. Dubois returned to the University of California, Davis, to start his career in academia as an assistant professor, rising through faculty and administrative ranks to hold various positions, including full professor and associate vice chancellor for academic programs.

In 1991, Dubois was recruited to UNC Charlotte, where he spent five and a half years as provost and vice chancellor for academic affairs. Under his leadership, UNC Charlotte planned and implemented its first doctoral programs. He led the creation of a strategic academic plan, which included creating programs to reach more nontraditional students, recognizing that as an important goal for an institution founded to educate veterans.

In 1997, Dubois left UNC Charlotte to become president of the University of Wyoming, where he led the development and implementation of comprehensive academic, support services and capital construction plans, expanded the University's role in statewide economic development, and improved student recruitment and retention.

In 2005, Dubois returned to UNC Charlotte and was named chancellor. During his 15-year tenure, he led the University through a 43% growth in enrollment, an expansion of academic programs, the implementation of diversity-related initiatives, growth in research funding and the construction and renovation of campus facilities. He increased the University's visibility in the Charlotte region and beyond, with undergraduate enrollment reaching nearly 30,000 under his leadership, led the largest facility construction and renovation program in UNC Charlotte's history, and under Dubois' strategic direction, football was added to the University's athletics offerings in 2013.

Dubois collaborated with elected officials and the Charlotte Area Transit System to make possible the construction of the light rail line from Center City Charlotte to the UNC Charlotte campus, increasing the connection and opportunities for partnership between the University and the rest of the city. He oversaw the implementation of new academic degree programs – 10 bachelor's, 17 master's, and 12 doctoral – and established or helped in the development of new offices to support students. To reach more non-traditional students, Dubois implemented the award-winning 49er Finish program, which helps students who left the University to complete their degrees, and partnered with Central Piedmont Community College to launch the 49erNext program, which creates a clear path for community college students to enroll at UNC Charlotte. Dubois worked with Charlotte Mecklenburg Schools to create two early colleges at UNC Charlotte, one for students interested in STEM fields and another for those interested in teaching.

The Dubois Center opened in Fall 2011 and is the only University of North Carolina classroom building conceived and designed specifically to serve the business, organizations, and people of an urban center. Its 25 state-of-the-art classrooms and design studios accommodate more than 1,500 students annually who earn bachelor's or master's degrees in business, architecture, urban design, education, public administration or health administration, plus about 2,600 more who

participate in certificate and other continuing education options. In addition, The Projective Eye Gallery, located near the lobby, regularly exhibits the work of artists known locally, nationally and internationally.

The Dubois Center hosts over 2,000 meetings and events annually and includes both university and community constituents.

## Duke Centennial

Duke Centennial Hall was dedicated on September 8, 2006, in honor of Duke Energy's century of service and its commitment to leadership for the future.

Duke Energy's history in the Carolinas dates back to 1904, when its first power station was built on the Catawba River. Cheap hydroelectric power helped transform the regional economy from agriculture to manufacturing.

In the 21st Century, our economy continues to change. Duke Energy partnered with UNC Charlotte to help establish the Office of Research Partnerships (formerly Charlotte Research Institute) to advance technology, foster innovation, and drive economic growth in our region.

Duke Centennial is home to the College of Engineering, Mosaic Lab, Center for Precision Metrology, and the Department of Mechanical Engineering and Engineering Science.

## Fretwell

The E.K. and Dorrie Fretwell Building honors the campus contributions of UNC Charlotte's second chancellor and his wife.

At the time of its dedication on May 23, 1996, the 162,000-square-foot facility was the largest academic structure on campus. It contains approximately 250 faculty offices and classroom seating for about 2,100 students. Built for $18 million, the four-story facility was constructed with revenues from a bond issue approved by North Carolina voters in a November 1993 referendum.

The son of two teachers, E.K. Fretwell was born in New York City. He earned a bachelor's degree at Wesleyan University, a master's in teaching from Harvard University and a doctorate from Columbia University. An Associated Press correspondent, writer for the American Red Cross, vice consul for the American Embassy in Prague and middle and high school teacher, Fretwell entered education administration in 1956 as assistant commissioner for higher education for the New York State Board of Regents. He also served as dean for academic development at the City University of New York and president of the State University of New York College at Buffalo. In addition, he was president of the American Association for Higher Education and chair of the Carnegie Foundation for the Advancement of Teaching.

A national leader in education, Fretwell became UNC Charlotte's second chancellor in January 1979. At the time, the University's enrollment was around 8,700 students. By his retirement in June 1989, UNC Charlotte's enrollment topped 13,000.

During his tenure, Fretwell merged the College of Humanities, Social, and Behavioral Sciences and College of Science and Mathematics into the College of Arts and Sciences (now the College of Humanities & Earth and Social Sciences) and created the Graduate School. Besides enhancing UNC Charlotte's national reputation for educational excellence, Fretwell increased the institution's links to the community through the expansion of the Urban Institute and University Research Park, the development of University Place and establishment of the C.C. Cameron Applied Research Center.

**Chancellor Emeritus Fretwell (second left) with his wife Dorrie at the formal dedication ceremony for the Fretwell Building**

Throughout his career, Fretwell relied upon his wife Dorrie. He was quoted often as saying they were a team. Born in Chicago, Dorrie Shearer Fretwell grew up in Evanston, Ill. She earned bachelor's and master's degrees in applied music at Drake University. Before her marriage, Fretwell studied voice at the American School of Music in Fontainebleau, France, and began her career as a professional soprano, performing as a soloist with choral societies, musical clubs and opera productions on stage and television. During her husband's tenure in Buffalo, Fretwell served as vice chair of the board of the Buffalo Philharmonic Orchestra and vice president of the Girl Scouts. In

Charlotte, she was on the board of Opera Carolina and the Charlotte Symphony. Among the initial enrollees of UNC Charlotte's graduate program in clinical psychology, she was its first graduate. She went into practice with Carolina Psychological Services and published a number of articles related to depression and headache management before retiring in 1996. She passed away December 30, 2011.

At the University's formal ceremony to dedicate the E.K. and Dorrie Fretwell Building, Allan Ostar, president emeritus of the American Association of State Colleges and Universities, noted "as a magnificent center of learning, it is a fitting tribute to a towering educational leader."

Today, Fretwell is home to the College of Humanities & Earth and Social Sciences; Departments of English, Mathematics and Statistics, Political Science and Public Administration, and Sociology; American Studies, Liberal Studies, Women's and Gender Studies programs, Political Science & Public Administration, Interdisciplinary Studies, and Disability Services.

## Friday

The Ida and William Friday Building houses the Belk College of Business, and it honors the many contributions of William C. Friday to the University of North Carolina system.

Born in Raphine, Va., Friday grew up in the Gaston County town of Dallas, where he played baseball and basketball. He attended N.C. State University, graduating with a bachelor's degree in textile manufacturing. As a senior, Friday met Ida Howell from Lumberton who was pursuing a bachelor's degree in home economics at Meredith College. They married on May 13, 1942, and Bill Friday continued his education at UNC-Chapel Hill where he earned a law degree. Ida Friday also furthered her studies, obtaining a master's in public health from UNC-Chapel Hill.

Friday spent the majority of his career in higher education. He was assistant dean of students at UNC-Chapel Hill, assistant to the president of the Consolidated University of North Carolina and secretary of the University of North Carolina. At age 36, Friday was named acting president of the UNC system. He would lead the system until 1986. During his tenure, he became recognized as one of America's most respected and effective educational leaders. Through the 1963 Higher Education Act, Friday redefined the purpose of each institution of the UNC system (at the time, UNC-Chapel Hill, N.C. State University and UNC Greensboro; UNC Charlotte became the fourth member of the system in 1965). In 1972, he reorganized the entire system which had grown to include 16 campuses (now 17 after the addition of the N.C. School of Science and Mathematics).

On more than one occasion, Friday noted his achievements could not have been possible without his wife, Ida. He said, "It took two of us to do this." As "first lady" of the UNC System, Ida Friday was active in community service, including president of the Chapel Hill Preservation Society, member of the board of the North Carolina Symphony Society, chair of the YMCA and YWCA at UNC-Chapel Hill and a member of the League of Women Voters.

Dedicated in 1982, the Friday Building incorporated the best classroom designs for teaching future business leaders for its time. UNC Charlotte faculty and staff, along with the architect, visited a number of institutions recognized for having leading business programs, including Harvard University, the University of Virginia and the University of Tennessee. The Friday Building's classrooms are modeled after the case classrooms pioneered at the Harvard Graduate School of Business.

The 64,000-square-foot building was designed to accommodate a third floor, which was constructed in 1994-95 using $3 million from a state bond referendum approved by voters in 1993. Changes in the building code required the University to make the facility more earthquake resistant. The columns that grace Friday Building contribute to its distinctive look; they were added during the expansion at the suggestion of Chancellor Emeritus Jim Woodward.

Several other UNC institutions have honored the Fridays with buildings on their campuses, including N.C. State University (the William and Ida Friday Institute for Educational Innovation), UNC-Chapel Hill (the William and Ida Friday Center for Continuing Education) and UNC Wilmington (Friday Hall).

Today, Friday is home to the Belk College of Business and its academic departments and programs.

## Gage

The Gage Undergraduate Admissions Center opened for the Fall 2019 semester. The two-story, 18,000-square-foot building welcomes prospective students and their families to campus. Additionally, the Center is home to the Office of Undergraduate Admissions and serves as the starting point for campus tours. This facility was made possible through an estate gift by the late Dr. Lucius G. Gage, Jr.

Dr. Gage was a Charlotte physician and a major benefactor to UNC Charlotte. He passed away in September 2011. He was educated in the Charlotte city schools and entered Duke University for his undergraduate degree after his junior year in high school. He then went on to Duke Medical School where he was recognized for exemplary performance. He completed his residency at the University of Virginia. Gage returned to Charlotte to practice medicine at the Nalle Clinic with his father, the late Dr. Lucius G. Gage, Sr., a founding partner, assuming the Director position in the Allergy and Arthritis Department.

## Garinger

Elmer Henry Garinger was one of the visionary leaders who helped Charlotte College realize the dream of becoming a four-year, state-supported institution.

As superintendent of Charlotte City Schools, Garinger employed Bonnie Cone, UNC Charlotte founder, as a mathematics teacher at Central High School. Later, he would name her director of the Charlotte Center of the University of North Carolina, the institution that ultimately became UNC Charlotte.

Born July 13, 1891, in Mount Vernon, Mo., Garinger graduated from the local high school and continued his education at the University of Missouri. He completed a bachelor's degree in 1916, and eventually, he earned a master's degree and doctorate from Columbia University.

During his 40-year career with Charlotte City Schools that began in 1921, Garinger gained a national reputation as a leader in education. In 1949, he was named superintendent of Charlotte City Schools, and he took the lead in planning for the consolidation of the Charlotte and Mecklenburg County school systems, a goal achieved in 1959. Garinger served for a year as superintendent of the new system, retiring as superintendent emeritus.

Garinger's association with UNC Charlotte continued throughout his life. He was instrumental in requesting the Charlotte Center be founded, and he was among the Charlotte leaders who worked to change the Charlotte Center to Charlotte College in 1949. When the institution was placed under the community college system in 1958, Garinger was named secretary of the first Board of Trustees of the Charlotte Community College System; he served in this capacity until 1963, when Charlotte College became a four-year, state-supported institution.

After retiring from the Charlotte-Mecklenburg Schools, Garinger worked to improve public education as a member of the N.C. House of Representatives, where he served two terms. In honor of Garinger's service to public education and the University, UNC Charlotte's Board of Trustees voted to name the first faculty building, constructed in 1965, in his honor. The Elmer Henry Garinger Building was dedicated in October 1970; a portrait of Garinger that hangs in the building was dedicated in March 1987.

Garinger died in Charlotte on August 21, 1982.

The Garinger building is one of the five buildings that make up the original quad of UNC Charlotte. Today, Garinger is home to the Departments of Africana Studies, Philosophy and History.

## Grigg

Dedicated on Sept. 8, 2006, William H. Grigg Hall is home to a number of Charlotte Research Institute offices and facilities, including the Center for Optoelectronics and Optical Communications.

Named for the chair emeritus of Duke Energy, Grigg Hall is a 96,820-square-foot, state-of-the-art academic and research facility. In 2002, the Duke Energy Foundation announced a $10 million gift to the University's capital campaign in support of Charlotte Research Institute programs and initiatives. Construction of Grigg Hall began in 2003 with funding from the state's $3.1 billion bond referendum approved by North Carolina voters in 2000.

Grigg, who grew up in Albemarle, completed a bachelor's degree from Duke University in 1954. After serving two years in the U.S. Marine Corps, he earned a law degree with distinction from Duke in 1958. After practicing law in Charlotte for five years, Grigg joined Duke Power in 1963 as assistant general counsel. He was promoted to vice president of finance in 1970 and vice president and general counsel in 1971. Elected to Duke Power's board of directors in 1972, Grigg eventually was named vice chair in 1991 and chair and chief executive officer in 1994. He retired in 1997.

During Grigg's tenure with Duke Power, he guided the corporation through some of the most challenging times in the electric utility industry. He helped expand and diversify the company's power plants and led the company's response to competition, including the merger with PanEnergy in 1997 to create Duke Energy. Grigg was named Electric Utility CEO of the Year for 1995 by Financial World magazine.

Committed to civic leadership and quality education, Grigg has served

countless community groups, including the Charlotte-Mecklenburg Hospital Authority, Foundation for the Carolinas and the Lynwood Foundation. In honor of his contributions to Charlotte and the greater community, UNC Charlotte awarded Grigg an honorary doctorate of public service in December 1997.

The architectural firm of Perkins-Will, which has offices nationwide, designed Grigg Hall. Constructed for roughly $24 million, Grigg Hall features a 3,000-square-foot clean room, a controlled environmental space used for research and manufacturing. Clean, contamination-free rooms are used in a variety of research settings – electronics and optics, as well as pharmaceuticals and DVD manufacturing.

Today, Grigg is home to the Ishwar Aggarwal Department of Physics and Optical Science, Optoelectronics Center, Electrical & Computer Engineering, and Charlotte Research Institute.

## Honeywell Innovation Hub

In September of 2025, UNC Charlotte and Honeywell announced a $10 million investment that will expand STEM workforce development and accelerate innovation in the Charlotte region through the transformation of UNC Charlotte's Burson Hall into the Honeywell Innovation Hub – a 155,000-square-foot, state-of-the-art learning complex for applied research and STEM education. The gift also supports scholarships for high-achieving students, integrated research opportunities and endowed faculty positions that strengthen research and teaching excellence.

"As the region's only R1 university, we have a responsibility to connect our students with real-world experiences and industry-leading partners," said UNC Charlotte Chancellor Sharon Gaber. "The Honeywell Innovation Hub will do just that, offering Niners access to advanced tools, collaborative spaces and opportunities that position them to make an immediate impact in their fields. The additional support from Honeywell will also help prepare our students to take the next steps in their careers as future data scientists, engineers and more, ensuring a talented and prepared workforce for our region."

The partnership builds on UNC Charlotte's R1 designation, advancing use-inspired research in fields critical to industry and society, including AI safety, grid resilience and smart infrastructure.

"Our work with UNC Charlotte not only reflects Honeywell's global commitment to STEM education that has reached millions of students over the past decade, but it also underscores our long-term focus on growing the innovation landscape, as we build the next generation of talent in Charlotte," said Vimal Kapur, chairman and CEO of Honeywell. "We will be here – not just for the tenure of making this building – but for many decades ahead, to enable students with best-in-class abilities through projects, mentorship and job opportunities."

The Honeywell Innovation Hub, which is expected to open in 2027, will feature project-based engineering labs, active learning classrooms, collaboration hubs and specialized research and simulation spaces. To enhance the classroom learning and research capabilities across the complex, more than $1 million of the company's investment will be used for industry-grade technology. Additionally, Honeywell's building automation technologies will help ensure the facility operates safely, efficiently and securely for students, faculty and staff over the years to come.

Completed in summer 1985, the original portion of the building was dedicated as the Physical Sciences Building and later renamed the Sherman L. Burson Building after the first Charles Stone Professor of Chemistry and inaugural dean of the-then College of Arts and Sciences. The 104,000-square-foot facility was designed by Peterson Associates of Charlotte, and constructed by Butler and Sidbury Inc. for a little more than $8 million. At the time of its re-dedication in April 1999, the building was noted for its planetarium platform mounted on vibration-resistant pedestals, an underground Van de Graaf linear accelerator and reinforced concrete radiation labs. The building's design won a national architectural award and was included in the American School and Universities Architectural Portfolio for 1986.

A native of Pittsburgh, PA., Sherman Burson, Jr. was born Christmas Eve 1923. His father, a Methodist minister, moved the family to Massachusetts, where Burson graduated from Harwich High School. Uncertain of his career goals, Burson considered becoming a surgeon, psychologist or medical researcher.

With little money for college, Burson took the advice of his high school principal and moved South where college costs were lower. He spent the 1941-42 academic year at the University of Alabama. When money ran out, he returned to Pennsylvania, where he worked in a steel mill during the day and attended the University of Pittsburgh at night. World War II was under way, and Burson entered the U.S. Army. A special program enabled him to continue studies at Louisiana State University; following the war, he returned to the University of Pittsburgh, where he completed a bachelor's degree in chemistry. He earned a doctorate in 1953.

In 1957, after nearly five years in private industry, Burson decided to pursue a career in academia. He joined the faculty of Pfeiffer College in Misenheimer. At the urging of Bonnie Cone, Burson accepted a position at Charlotte College in 1963. He was a professor of chemistry and chair of the department when Charlotte College became the fourth campus of the University of North Carolina in 1965. It was under Burson that the department achieved accreditation from the American Chemical Society.

UNC Charlotte's first chancellor, Dean Colvard, appointed Burson acting dean of the College of Science and Mathematics in 1973, and in 1980, Chancellor E.K. Fretwell named him dean of the newly formed College of Arts and Sciences (now the College of Humanities & Earth and Social Sciences), formed by the merger of the College of Science and Mathematics with the College of Humanities and the College of Social and Behavioral Sciences. He held this post until retiring in June 1985.

## Johnson

The Vickie and Gene Johnson Marching Band Center is home to the UNC Charlotte "Pride of Niner Nation" Marching Band.

The 6,700 square foot building houses a conference room, music library and four offices for the band staff. It also includes a storage room for drumline and color guard equipment, as well as ample space to store musical instruments and uniforms for the entire marching band. The band began performing in Fall 2015 with 145 members, but will eventually grow to include 300-350 members.

Johnson Band Center (JBC) was designed by the award-winning architecture firm Watson Tate Savory. The design reflects the architectural characteristics of neighboring Storrs Hall and Robinson Hall, and the building serves as an architectural landmark for patrons going to and from events in the College of Arts + Architecture.

Johnson Band Center is one of a few buildings in the nation dedicated exclusively to a marching band.

## Kennedy

The W.A. Kennedy Building was one of the first two facilities on campus. Designed by A. G. Odell Jr., the architect of Ovens Auditorium and Bojangles Coliseum, the building was named for Woodford A. "Woody" Kennedy. Sometimes called the "spiritual father of Charlotte College," Kennedy was a member of the first advisory board of the institution in 1947. He was named to its eight-member board two years later. Without Kennedy's perseverance, Charlotte College likely would have remained a two-year community college.

Kennedy believed that Charlotte deserved and needed a great university. He stated that a thousand additional high school graduates could go to college each year if the opportunities available in other parts of the state were available in Charlotte. With a zeal he once termed an obsession, Kennedy worked tirelessly to raise money and support to make that happen.

He encountered a lack of support among many of Charlotte's business executives and disinterest from politicians. His rhetoric sometimes became strident, characterizing critics of the project as naysayers and deriding the state's support as a 'sop.'

At the time, the school operated with a part-time faculty who taught in part-time classrooms, and it was financed almost entirely by tuition paid by student loans until Kennedy pushed for and obtained the initial state funding in 1955.

As a member of the college's site selection committee, he searched for a scenic location with room for growth and expansion; the committee ultimately settled on the present location of the UNC Charlotte campus. He told reporters, "I may not but you will live to see 10,000 students at Charlotte College."

The statement proved prophetic. Kennedy died on May 11, 1958, the eve of his installation as a trustee of Charlotte Community College. But his contribution was not forgotten. The trustees proposed that the first building on the new campus be named for him. The building was dedicated on Feb. 16, 1962.

When Kennedy Building first opened, it housed science laboratories (chemistry, physics, biology and geology), as well as labs for a variety of engineering courses. There were 10 classrooms, 12 faculty offices and a lecture room with elevated seating for 100. The building also served as a temporary library; its first floor contained 18,000 volumes while Atkins Library was being built.

Today, Kennedy houses the School of Professional Studies, the Center for Teaching and Learning (CTL), and OneIT.

## King

Arnold K. King may be one of the few individuals to have a building named in his honor on two UNC system campuses. Ten years before UNC Charlotte dedicated the King Building for him, UNC Wilmington put King's name on an administrative and classroom building. Such an honor is an indication of the vital role King played throughout the UNC system.

From his days as a student at UNC-Chapel Hill in the 1920s until his retirement as special assistant to UNC President William Friday, King was an integral part in the development of the University of North Carolina system. After receiving his bachelor's degree, he continued his education at the University of Chicago, completing a master's and doctorate. Returning to Chapel Hill, King served as a professor, graduate school administrator, head of summer sessions and vice president. He also was as acting chancellor for UNC Asheville in 1977.

King participated in a number of education-related study commissions, panels and boards across North Carolina and around the country. UNC President Friday and King were colleagues for more than 20 years. The UNC leader turned to King for his assessment when planning for the system's future. King served as a liaison between Friday and Charlotte College during the institution's transition to becoming the University of North Carolina at Charlotte. He later played the same role for UNC Asheville and UNC Wilmington.

In addition to his long service to the UNC system, King was one of the founders of N.C. Wesleyan College, and he was considered an expert on the history of the UNC system. In retirement, he wrote "The Multi-campus University of North Carolina Comes of Age: 1956-1986," a historical bibliography of his three decades working in the system. He finished a 20-page manuscript on UNC's University Day celebration just two days before his death.

The architectural firm of Odell Associates Inc. designed the building, which was constructed by F.N. Thompson Inc. in 1966 at a cost of $603,000. The King Building was originally named for Addison Hardcastle Reese. It was renamed for King following the dedication of Reese Building, which opened in 1982. Dr. King passed away on March 31, 1992, at the age of 90. A resolution in his memory noted, "Our University lost a part of its memory and conscience, and it lost a great friend."

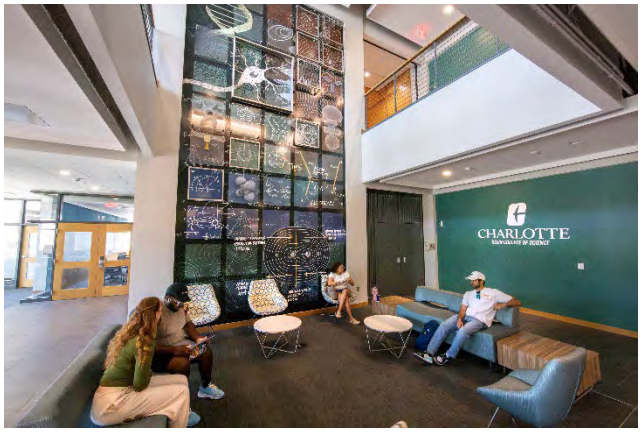
Today, King is home to the Dean of Students Office (Basic Needs Services; Niner Finances; Student Accountability & Conflict Resolution), Human Resources, and Office of the Registrar.

## Klein

Klein Hall is a state-of-the-art facility dedicated to advancing scientific research and education. Officially named in 2024, Klein Hall honors the generous $10 million donation from Gené and Fred Klein, prominent community leaders in Charlotte and loyal supporters of UNC Charlotte. Fred has provided valuable leadership to the University by serving on the Board of Trustees and the Foundation Board, as well as providing key funding for the Childress Klein Center for Real Estate and serving on the Childress Klein Center Advisory Board. As a founding partner of Childress Klein, one of Charlotte's most respected private real estate firms, Fred has helped shape the skyline of our city and developed many of Charlotte's most prominent landmarks. In 2024, Fred was honored with the UNC Charlotte Distinguished Service Award, reserved for civic and community leaders who have been essential to the Charlotte region and the University's growth. The Kleins have a deeply rooted interest and passion for science and mathematics. Gené spent her early career as a math educator, and Fred received his undergraduate degree in engineering. Together, they have championed the importance of science and math education in fostering critical thinking and problem-solving skills that are valuable to all students, regardless of their professional pursuits.

Klein Hall is a modern marvel, featuring 130,000 square feet of open

areas, classrooms, and teaching and research laboratories spread across three stories plus a basement, with a central café and attached regional utility plant that serve the overall campus and student body. Designed by Clark Nexsen and Payette and constructed by Balfour Beatty, Klein Hall opened its doors in 2022 at a cost of over $80 million. This facility is equipped with cutting-edge laboratories, collaborative spaces, and advanced technological resources, making it a hub for innovative education and scientific discovery. The main lobby also contains a dramatic two-story 3D science and mathematics feature wall designed by architectural firm Jenkins Peer with input from faculty and students.




Overall, Klein Hall and Klein College of Science represent a significant advancement for UNC Charlotte. They embody the university's commitment to scientific excellence and innovation, providing students and faculty with the resources and environment needed to thrive in their academic and research endeavors. The generosity of Gené and Fred Klein has not only transformed the physical landscape of the campus but also set the stage for future scientific breakthroughs and educational advancements.

Klein Hall houses the Klein College of Science.

## Macy

The Macy Building was one of the first two facilities constructed on the UNC Charlotte campus. It was named for Pierre Macy, professor of French and chair of the-then Foreign Language Department. The 18,000-square-foot research and instructional facility was constructed concurrently with the Kennedy Building by Odell Associates in 1961 at a cost of $418,000.

Macy was born in France in 1899 and received degrees from the University of Nancy, the University of Dijon, and the University of Paris before making the United States his adopted home.

The noted author and translator arrived at Charlotte College in 1949 and almost single-handedly established and maintained the fledgling college's Foreign Language Department (now the Department of Languages, Cultures, and Translation). Before joining the faculty of Charlotte College, Macy was chair of the Romance Language departments at Kentucky Wesleyan College, the University of Tulsa and the College of William and Mary. He returned to his alma mater, the University of Nancy, for one year as a visiting professor.

An integral faculty member of the college, Macy served on the curriculum committee, chaired the concerts and lectures committee, advised the French Club and later served on the University's executive committee.

Students held Macy in such high regard that the 10th edition of the yearbook was dedicated to him in 1960 "for his deep understanding, patient guidance and personal interest in the students of Charlotte College. He has inspired us to greater achievements through his teaching and counseling, and he will be fondly remembered in our memories of Charlotte College."

Macy served as the first commencement marshal for the newly established University. His dedication to UNC Charlotte went well beyond any specific position he held. He taught French three years after relinquishing the department chairmanship and stayed on the faculty two years after he reached retirement age.

At his 1969 retirement, he received the rare honor of being named a faculty emeritus from his colleagues. "The Foreign Language Department, carefully constructed by Dr. Macy over the years, was clearly one of the solid blocks of the foundation of the new institution," read the tribute. He is further remembered today with the Pierre Macy Award for Excellence in French.

The Macy building is one of the five buildings that make up the original quad of UNC Charlotte. Today, Macy is home to the Department of Global Studies and Department of Religious Studies, Art & Art History, and the College of Arts & Architecture.

## McEniry

Built to house the University's earth and life sciences programs, the McEniry Building is named for UNC Charlotte's first vice chancellor for academic affairs, William Hugh McEniry. The $4 million, 103,000-square-foot facility was completed July 7, 1975, to house the Departments of Earth, Environmental, and Geographical Sciences and Biology.

Chancellor Dean Colvard hired McEniry (pronounced My-Canary) in 1967; Colvard was searching for a top-notch administrator with an arts and sciences background. Based upon numerous recommendations, Colvard recruited McEniry away from Stetson University where he had spent 27 years and served as a university dean. Ready for a new challenge, McEniry and his wife, Mary, relocated to North Carolina and settled into a 17-acre plot of land between the University and Huntersville they dubbed "Rural Simplicity."

McEniry is credited with recruiting dedicated and talented faculty to UNC Charlotte, and he was active in a number of organizations, such as the North Carolina Association of Colleges and Universities and the College Entrance Board. He also served as president of the Southern Association of Colleges and Schools.

Dedicated to improving higher education for blacks, McEniry served as a trustee of Johnson C. Smith University. In addition, he personally financed scholarships for some black students and worked with the Ford Foundation to improve academics and the curricula for historically black colleges.

In 1973, McEniry agreed to serve as acting chancellor at Western Carolina University in Cullowhee until a permanent chancellor was hired. He passed away on March 15, 1974, at the age of 57.

The McEniry Building is just one lasting tribute to the University's pioneering vice chancellor. Each year, a member of the graduating class with the highest GPA receives the W. Hugh McEniry Award for Academic Excellence. The North Carolina Association of Colleges and Universities named its top honor for the trailblazing educator - the Hugh McEniry Award for Outstanding Service to North Carolina Higher Education. Following McEniry's death, Stetson University established the McEniry Award, a prestigious honor given a professor as selected by faculty members and students.

Today, McEniry is still home to the Department of Earth, Environmental, and Geographical Sciences.

## Mebane Hall

The Cato College of Education is housed in Mebane Hall which was dedicated in September 2023 in honor of a transformative endowment of up to $23 million from the Mebane Foundation to support early literacy. The gift established the Mebane Early Literacy Center and allowed the University to greatly expand its efforts as a leader in reading instruction in North Carolina and nationwide.

The Mebane Foundation gift, one of the largest in the University's history, arrived following a report commissioned by the UNC System Board of Governors that designated UNC Charlotte as "strong" in literacy instruction, the sole public university in the state to receive this highest achievable rating.

"Allen Mebane, one of this state's great business leaders and entrepreneurs, believed in the importance of childhood literacy," said Chancellor Sharon L. Gaber. "We are thankful to the Mebane Foundation and its board for their confidence in UNC Charlotte. Now, as countless future educators walk through the newly renamed Mebane Hall, they will be reminded of Mr. Mebane's lasting legacy of curiosity and innovation."

"Many ask me, 'Why Charlotte?' And my answer is, the campus has a vibe," said Larry Colbourne, president of the Mebane Foundation. "When we arrived here, we immediately felt like great things are about to happen here. It's a building and it's Mebane Hall, and that is really exciting, but it's what goes on between these four walls that matters. Like Allen [Mebane], we must always be disruptors, we must always be innovators."

## Memorial Hall

Memorial Hall is dedicated to fallen U.S. veterans. The building houses the Departments of Military Science (Army ROTC) and Aerospace Studies (Air Force ROTC). It serves as a memorial to commemorate UNC Charlotte students who have served in any branch of the Armed Services and lost their lives in service to the country.

## Popp Martin Student Union

The UNC Charlotte Student Union originally opened its doors in 2009 as the community center of the University. On any campus, the union serves students, faculty, staff, alumni, and visitors. It provides services and conveniences that members of the college community need in their daily lives and creates an environment for getting to know and understand others through formal and informal associations. It was renamed the Karen A. Popp and Demond T. Martin Student Union in 2016 to honor the dedication and service of two extraordinary alumni, Karen Popp ('80) and Demond Martin ('97).

Karen A. Popp was born in North Carolina, but moved often because of her father's successful career as a high school, college, and NFL football coach. Karen graduated cum laude from UNC Charlotte in 1980, then attended Oxford University in England on a Rotary International Scholarship where she studied law and rowed for her college. She then attended law school at UNC Chapel Hill, serving as an editor on the North Carolina Law Review, becoming a member of the Order of the Coif and graduating cum laude. She has had an exemplary career as an attorney in private practice and the government. Karen clerked for the Honorable Sam J. Ervin, III of the U.S. Court of Appeals for the Fourth Circuit, moved to New York City where she was a Wall Street lawyer at Sullivan & Cromwell, and then an Assistant U.S. Attorney in the Eastern District of New York. She moved to Washington, D.C. to serve in the Office of Legal Counsel at the U.S. Department of Justice, as Associate White House Counsel for President Bill Clinton and as a partner in the international law firm of Sidley Austin, where she led the White Collar corporate defense practice and was a member of the firm's Executive Committee. Karen has received numerous professional awards, honors, and recognitions for being one of the best lawyers in the world and a trailblazer for women.

Demond Martin spent his childhood in Columbus, Ohio, and Inglewood, California; but spent many of his most formative years in Mocksville, North Carolina. Demond was thrilled to be admitted into UNC Charlotte, and immediately felt at home from his first visit. Coming from a small town, he fell in love with the campus and reveled in the opportunity to interact with students from such varied backgrounds. He took part in many campus activities, but it was his participation in the University Transitions Opportunity Program (UTOP) that introduced him to Dr. Herman Thomas, who became a lifelong mentor and challenged Demond to become a person of consequence – not for its own sake, but to best position himself to serve others.

In part due to the UTOP experience, Demond came to campus with a sense of who he wanted to become, and was involved in leadership activities from the moment he arrived. He became SGA president as a sophomore – an unprecedented event at UNC Charlotte at the time. He also joined Alpha Phi Alpha fraternity, Mu Tau chapter and would serve as chapter president. In honor of his skill as an orator, the Chapter established the annual Demond T. Martin Oratorical contest. He would go on to win numerous awards and distinctions, but one of his most gratifying experiences was to be part of a group of student leaders who escorted Ms. Rosa Parks through the city of Charlotte to address students and to inspire a call to action. Demond received his Bachelor of Science degree in Accounting in 1997, having left a mark on the campus, both students and faculty alike.

## PORTAL

The Partnership, Outreach, and Research to Accelerate Learning (PORTAL) building, which opened in February 2014, demonstrates UNC Charlotte's commitment to foster partnerships with private industry. Designed to stimulate business growth and job creation along with promoting research and innovation and supporting the entrepreneurial ecosystem of the Charlotte region, PORTAL is a venue where entrepreneurs can collaborate with peers, faculty members, and students to harness the power of a research university to plan strategies that lead to business success.

PORTAL is outfitted with over 90,000 square feet of floor space dedicated to business innovation and partnership with front door access to the exceptional resources, facilities, and academic talent found on the UNC Charlotte campus. The building has a contemporary aesthetic and 4-story atrium bound by office suites, meeting rooms, and a café. Business tenant offices and suites start at about 200 square feet and are expandable as required. An abundance of naturally lit community gathering spaces – including glass enclosed meeting rooms located on two atrium transecting bridges – facilitate networking and idea exchange. Business tenants have access to any of PORTAL's four meeting rooms on a scheduled basis.

## Reese

Around Charlotte, Addison Hardcastle Reese is probably better known as a titan of the banking industry rather than for his passionate commitment to UNC Charlotte.

Born in Baltimore County, Md., on Dec.28, 1908, Reese attended Johns Hopkins University but left after his junior year to begin his lifelong career in banking. He worked as a clerk, a senior national bank examiner and a bank vice president all before serving in the U.S. Air Force during World War II.

Reese returned to banking after the war and was recruited to Charlotte in 1951 as executive vice president of American Trust Company. He was promoted to president in 1954 and organized a series of mergers that became the North Carolina National Bank, which has since evolved into the Bank of America. He also served on the board of the Federal Reserve and as a director of the International Monetary Conference.

Named to the Board of Advisors of the Charlotte Community College System in 1957, Reese was later elected to the college's Board of Trustees. He chaired the Charlotte College Site Committee and worked with University founder Bonnie Cone and Pete McKnight to choose UNC Charlotte's current location.

In 1963, Reese was appointed vice chair of the Charlotte College Board of Trustees and took over as chair following the death of J. Murrey Atkins. He spent a year as a member of the North Carolina Legislative Study Commission on Student Financial Aid and was a member of the UNC Charlotte Foundation.

In 1968, UNC Charlotte awarded its first honorary degrees. One went to Reese and the other went to Frank Porter Graham, former University of North Carolina president, U.S. senator and United Nations mediator.

Reese's award recognized him as "a man of vision, who foresaw a university of excellence, where those of lesser vision saw only a struggling community college."

The North Carolina Citizens Committee presented Reese with the 1974 Distinguished Citizenship Award. Reese also served on the boards of trustees for both the University of North Carolina and UNC Charlotte, serving as the chair of the latter from 1972 until his death in 1977.

Like the Colvard Building, the Reese Administration Building was designed by Harry Wolf of Wolf Associates. It was completed in 1982, and is named in Reese's honor.

Today, Reese houses the office of the Vice Chancellor for Business Affairs, Financial Services, the Office of Financial Aid, and the Graduate School.

## Robinson

Robinson Hall for the Performing Arts is a state-of-the-art venue that affords the campus and the community access to a slate of contemporary and classical dance, music and theater offerings.

Named for Russell and Sally Dalton Robinson, the three-story, 118,000-square-foot facility contains classrooms, offices and performance and rehearsal spaces for the departments of dance, music and theatre. It was built and equipped for $28 million, financed through the statewide bond referendum approved by voters in 2000.

The hall's first floor houses a 332-seat proscenium theater, which includes a 23-seat orchestra pit. The theatre has a 3,500-square-foot stage equipped with 18 trapdoors, a curtain 26 feet high and a 60-foot fly-loft for storing and changing scenery. There also is the Black Box Theatre. Throughout the building are rehearsal rooms and labs for costume, scenery and lighting design.

The Robinsons are both Charlotte natives, and they are considered among the most admired and effective community leaders. In addition to leadership roles at Christ Episcopal Church, they have supported professional, educational and charitable institutions, arts and cultural organizations and economic development services.

Russell Robinson II is founding partner of one of North Carolina's largest law firms - Robinson, Bradshaw and Hinson. According to an article in the Charlotte Observer, Robinson majored in English at Princeton University but transferred to Duke University after two years. He went on to obtain his law degree from Duke in 1956. His firm has represented numerous businesses and organizations, including Belk Store Services Inc., the Duke Endowment, Duke Power and the Charlotte Housing Authority. His book "Robinson on North Carolina Corporation Law" is considered a necessity for any aspiring Tar Heel corporate lawyer.

A member of the UNC Charlotte Board of Trustees from 1987-97, Robinson served as chair for eight years. During his board tenure, Robinson was regarded by observers as a "quiet power" for the University; he focused on increasing public and private funding and obtaining UNC system authorization for doctoral degrees beyond joint Ph.D. programs.

In addition to his role as a trustee, Robinson was a director of the UNC Charlotte Foundation. He also has been a trustee of the Duke Endowment and chair of Duke University's Board of Trustees.

Sally Dalton Robinson attended public schools in Charlotte, St. Mary's School in Raleigh and Duke University. She was a member of Phi Beta Kappa and earned a bachelor's degree in history. Among her many civic contributions, she served as an integral founding member of the Levine Museum of the New South and the St. Francis Jobs Program (now the BRIDGE Jobs Program). She also was on the board of the Charlotte Symphony, the Arts and Science Council, McColl Center for the Visual Arts as well as other religious, charitable and economic organizations.

Dedicated November 3, 2004, Robinson Hall was designed by the Charlotte architectural firm of Jenkins Peer. Skanska and R.J. Leeper were general contractors, while the firm Biemann and Rowell was the mechanical contractor. Port City Electric served as the electrical contractor; the hall's lighting and acoustical controls were among the most sophisticated in modern theater design at the time of construction.

Today, Robinson Hall is home to the Departments of Dance, Music, and Theatre; the Anne R. Belk Theater; and the Lab Theater.

## Rowe

The Oliver Reagan Rowe Arts Building honors one of UNC Charlotte's founding fathers. Completed in 1971, the 75,000 square-foot facility was constructed to house the-then departments of Performing and Visual Arts. The building's focal point is an eight-sided theatre that seats 350. It also includes a recital hall, classrooms, offices, practice rooms and a large lobby-gallery.

Rowe was born Dec. 12, 1902, in Newport, Tenn. He and his wife Maria would become avid supporters of the Charlotte arts community and UNC Charlotte. Rowe's family moved to Charlotte when he was a child. After graduating from Central High School, Rowe attended UNC-Chapel Hill, where he completed a bachelor's degree in electrical engineering. He returned to Charlotte and began work with the R.H. Bouligny engineering firm. He eventually became president of R.H. Bouligny Inc., Powell Manufacturing Co. and Powell Agri-Systems Ltd.

In the 1950s, Rowe supported consolidation of city and county schools, which won him the Charlotte News "Man of the Year Award" in 1958. That same year, Gov. Luther Hodges appointed Rowe to the first Board of Trustees for the Charlotte Community College System. He chaired the board's finance committee, and he was instrumental in soliciting the largest single gift to the-then Charlotte College Foundation (now the Foundation of the University of North Carolina at Charlotte).

Between 1961 and 1963, Rowe made numerous speeches championing the cause of higher education for the Charlotte region. In 1964, the Charlotte Civitan Club presented its Distinguished Citizenship Award in recognition of Rowe's efforts on behalf of the University.

During the rest of the 1960s, Rowe continued to find new causes for his leadership. A long-time music lover, Rowe began to support the opera and symphony. Eventually, he was elected president of the Charlotte Symphony Orchestra Society, and in 1973, he established, nurtured and financially supported the "Rowe String Quartet" at UNC Charlotte.

In 1987, Rowe was awarded an honorary Doctor of Human Letters. The citation reads in part that "Oliver Reagan Rowe Sr. was a founding father of the University of North Carolina at Charlotte. He helped to dream the dream and to make it come true ... With his vision, he painted a picture of a major state university when others around him saw only the two-year college then existing."

Today, the Rowe Building is home to the Department of Art and Art History.

## Smith

The Sheldon Phelps Smith Building honors an individual whose foresight helped to chart UNC Charlotte's educational course.

Smith, vice president and general manager of the Douglas Aircraft Company's Charlotte Division, served as a trustee of Charlotte College from 1958 to 1965. He is credited with bringing an engineering program to the institution. Through his generosity, Douglas Aircraft Co. engineers taught at Charlotte College on a released time basis; as many as nine part-time instructors from Douglas were in service at one time.

Born in Redlands, Calif., on March 26, 1910, Smith graduated from Pomona College in 1932 with a bachelor's degree in physics. During World War II, he served as a lieutenant with the Engineering Division of the Navy Bureau of Aeronautics and was assigned to the missiles branch. Following the war, he was a missile project engineer with the Douglas Aircraft Co. Prior to moving to Charlotte, he was an assistant design engineer for missiles at the company's Santa Monica facility.

In addition to starting the University's engineering program, Smith is credited with bringing graduate courses in mathematics and physics to the-then Charlotte College through a cooperative agreement with N.C. State University.

As an advocate for the college, Smith once said, "If we marry the manpower development of this Charlotte College area of some 1 million people to the tremendous demand of technical industries for engineers and scientists, we will accomplish two ends: to help satisfy the great national requirements for engineers and scientists and to improve the usefulness and economic standards of the residents of North Carolina."

Smith left Charlotte to become vice president of Douglas Aircraft and vice president of Douglas United Nuclear Corp. in Hanford, Wash. He died April 28, 1966.

The Smith Building, completed in 1966, was originally called the Engineering Building. The 71,000 square-foot, $1.6 million facility was the largest classroom and laboratory building on the campus at the time. When finished, it housed the Computer Center, Mathematics Department, the Geography and Geology Department (now Department of Earth, Environmental, and Geographical Sciences) and the Engineering Program.

UNC Charlotte dedicated the building in honor of Smith on Dec. 15, 1968, in a ceremony held in the Cone University Center. The Smith family presented a portrait of the building's namesake to be placed in the facility.

Today, Smith is home to the College of Engineering's Office of Student Development and Success, Mosaic Lab, and the Department of Engineering Technology and Construction Management.

## Storrs

The Thomas I. Storrs Building resulted from the collaboration between Charlotte architectural firm Ferebee, Walters and Associates and New York architects Charles Gwaltmey and Robert Siegel.

Since its completion in 1990, Storrs Building has been used as an "architectural education instrument," because students and professionals can study its many unique features, as the building is considered a virtual textbook for use of materials and systems. This 87,000-square-foot facility features a complex roof design, natural and artificial lighting systems, double helix stairs and exposure of structural and environmental systems. Home to the School of Architecture in the College of Arts and Architecture, Storrs Building is appropriately named for an individual who dedicated himself to helping build the University.

Storrs, born in 1918, dropped out of high school during the Great Depression. At the age of 15, he began work as a clerk at the Federal Reserve Bank of Richmond, Va. He would later resume his formal education, enrolling in the University of Virginia, where he completed undergraduate studies. He earned a master's degree and doctorate in economics from Harvard University.

Originally from Nashville, Tennessee, Storrs joined the-then North Carolina National Bank (NCNB) in 1960 as executive vice president. He would later serve as one of the architects who laid the foundation for NCNB to emerge as NationsBank (now Bank of America). Following the retirement of Addison Reese, Storrs became chair and CEO, and he would follow his predecessor's example as a member of the UNC Charlotte Board of Trustees for nearly 12 years – the last four years as chair. His civic involvement included serving as president of the Business Foundation of North Carolina, vice president of the North Carolina Engineering Foundation and director of the North Carolina Textile Foundation. In 1990, he was inducted in the North Carolina Business Hall of Fame.

A recipient of the UNC Charlotte Distinguished Service Award, Storrs also has a scholarship in his name at the University of Virginia.

Formal groundbreaking for the $7.5 million Storrs Building was held Aug. 26, 1988. Dedication of the building was Oct. 29, 1990, and a ceremony to name the facility in honor of Storrs was held Sept. 16, 1992.

Today, the Storrs Building is home to the College of Arts + Architecture and School of Architecture.

## Winningham

If one person can be credited for launching the tradition of bringing prominent speakers to the UNC Charlotte campus, then it is Edyth Farnham Winningham, one of the University's pioneering faculty members.

Winningham, born Jan. 26, 1900, in Arthur, N.D., earned a bachelor's degree in modern languages from the University of North Dakota. She later earned a master's in political science from UNC-Chapel Hill, reportedly the first woman in the state to complete the degree.

Beyond teaching high school in North Dakota and North Carolina, Winningham served as a faculty member at the University of Wyoming, the Women's College of the University of North Carolina (now UNC Greensboro) and the UNC College Center in Wilmington (now UNC Wilmington). Her connection to UNC Charlotte dates back to its time as Charlotte College. Winningham joined the faculty in 1947, and she spent the next two decades infecting everyone around her with her passion for politics and international affairs.

Winningham frequently stated that one of her dreams was to bring prominent thought-leaders to the campus to "open up windows" for the institution's students. Her persistence paid off in 1966 with the establishment of the University Forum Council, which sponsored an event each year to bring noted speakers to the campus to address crucial issues facing contemporary society. She chaired the council until spring 1971, despite retiring in 1967 as professor emeritus. According to Special Collections, the final forum was held March 2, 1995. This 30th annual event focused on "Violence: Is Prevention the Key?"

Even after retiring, Winningham continued to lecture on world affairs and international education. She and her husband also established the James and Edyth F. Winningham Scholarship for undergraduate political science majors.

In 1970, Winningham's service to the greater Charlotte community was recognized by the League of Women of Voters. The organization singled her out for her instrumental role in forming closer ties between the University and the Charlotte community at large, and she was named WBT Radio's Woman of the Year. In 1985, UNC Charlotte awarded her an honorary Doctor of Humane Letters. She died May 27, 1994.

The 10,507-square-foot classroom building which bears her name was constructed in 1965 by F.N. Thompson Inc. The architectural firm Odell Associates designed the facility.

The Winningham building is one of the five buildings that make up the original quad of UNC Charlotte. Today, Winningham is home to the Department of Art & Art History, and Philosophy.

## Woodward

As students at UNC Charlotte attend classes in the science and technology building on campus, they are walking into the physical manifestation of the work done by Chancellor Emeritus James Woodward and his wife Martha. On November 16, 2005, the building was formally dedicated to recognize the Woodwards' 16 years of service and devotion to the University.

The James H. and Martha H. Woodward Hall is a direct result of their vision to help elevate UNC

Charlotte to a research institution. The Woodwards worked together to raise awareness of the University's vital role as an economic engine and build many new partnerships and friendships for the institution. As Chancellor from 1989 to 2005, Jim Woodward was the visionary, strategist, and master builder who guided UNC Charlotte's development as a major research institution. Martha played a vital role in strengthening ties to UNC Charlotte through the hosting of thousands of guests regionally and nationally. Throughout their 16 years at the University, the Woodwards worked together to bring much needed attention to both the University's strengths and to its resource needs.

Today, Woodward Hall is home to the College of Computing and Informatics; and Departments of Biological Sciences, Computer Science, Mechanical Engineering & Engineering Science, and Software & Information Systems.

# University Logo

In 2021, UNC Charlotte adopted the All-in-C logo, which features a block-style letter C with a pickaxe (used by Charlotte mascot Norm the Niner). The design pays tribute to the University's trailblazing spirit. The All-in-C represents the power to break new ground, the persistence to discover the unknown, and the promise to build the future.

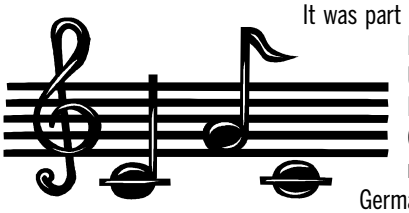
# University Seal

UNC Charlotte became the fourth campus of the University of North Carolina in July of 1965. In the fall of 1965, the new UNC Charlotte seal was chosen by a committee of students (the three upper-class presidents), three faculty members, and the school publicity director, who served as chair. Final approval was given by Acting Chancellor Bonnie Cone.

UNC Charlotte seal's elements are: the modern arches (the tulip design from the canopy of the Kennedy Building) at the top to symbolize that this is a twentieth century university; two Cs in the middle to represent Charlotte College, from which the new campus sprang; and the pine cone at the bottom for the Old North State [land of the longleaf pine]. The date on the seal is 1946, the year in which the institution began as the Charlotte Center of the University of North Carolina.

# Alma Mater

UNC Charlotte's Alma Mater has deep roots in the institution's history. It was part of an "Academic Festival March" composed for UNC Charlotte by James Helme Sutcliffe, a Charlotte composer and music critic who lived in Germany at the time. Dr. Loy Witherspoon, professor of religious studies, commissioned the March in 1965 when he learned that Charlotte College would become a campus of The University of North Carolina. The March was first performed in 1967 at the installation of Dean W. Colvard as UNC Charlotte's first chancellor. Afterwards, it was performed as a recessional at every Commencement during Dean W. Colvard's tenure as chancellor. When UNC Charlotte founder Bonnie Cone heard the March, she said, "I can hear an alma mater in it," referring to a hymn-like refrain. Dr. Robert Rieke, a professor of history, also heard an alma mater in it.



On a 1990 trip to Germany, Rieke visited Sutcliffe, picked up a recording of the March, and began writing words to fit the final refrain. On Christmas Eve 1991, he sent Bonnie Cone the words and music as a Christmas present to her and to the University, from which he had retired a year earlier. Chancellor James H. Woodward approved the composition as the University's Alma Mater in April 1992. It was sung for the first time at the following May Commencement and has been performed at every Commencement since.

*Hail University! To you we sing our praise.*
*May Charlotte's light dispel the night,*
*illumine all our days.*
*In Carolina's crown the brightest gem we see.*
*Without your power our finest hour*
*would hold no victory.*
*So let us love your life and*
*cherish your great name.*
*To aid your cause, uphold your laws,*
*and your enduring fame.*

# The 49ers

The nickname, the 49ers, was chosen in recognition of the importance of the year 1949 in the history of the University. UNC Charlotte, which began as an off-campus center of the University of North Carolina at Chapel Hill, would have closed its doors in 1949 had Bonnie Cone and

her supporters not convinced the N.C. Legislature that Charlotte needed a permanent college. Charlotte College was established that year. Additionally, the campus is located on N.C. Highway 49, and Charlotte has a rich gold mining history -- the term "49ers" symbolizes gold mining. A bronze statue of the 49ers Gold Miner sits at the bottom of the staircase between the Mebane and College of Health and Human Services buildings on campus. The statue recalls the region's history as a gold mining center and symbolizes the pioneering spirit and determination that has led to UNC Charlotte's dramatic growth.

# 49ers Fight Song

The fight song music was composed by former music faculty member Dr. Harry Bulow in 2001. It replaced one which belonged to the University of Texas at Austin, entitled "Texas Fight," which had been used since the late 1960's. The new fight song was played for five years before Dr. Laurence Marks, UNC Charlotte's director of bands, composed a set of lyrics in 2006. Minor changes suggested by the campus administration, Athletics, and students were accepted by Marks and submitted for final approval by the Chancellor and the 49ers Fight Song, reflected below, was born.

*Hail, Charlotte 49ers, proud as we can be*
*We stand to fight for the green and white*
*'Til we win the Victory (Go Niners!)*

*We pledge our trust in you,*
*And wave your colors high*
*The loyal Niner Nation cheers,*
*Forever! We'll Fight-Fight-Fight!*

# Mascot

A miner was chosen as the UNC Charlotte mascot as a nod to Reed Gold Mine in nearby Concord, the site of the first documented gold find in the United States in 1799. He was named Norm through popular student vote shortly after he was made mascot. Norm is rarely seen without his trusty pick-axe and never takes his slouch hat off.

# *Admission* to the University

# Admission to the University

admissions.charlotte.edu

The University considers applications for admission without regard to race, color, national origin, religion, sex, sexual orientation, age, or disability. It reserves the right to withhold the admission of applicants who fail to meet any of the requirements for admission and to restrict enrollments as required by budgetary or other constraints.

## Admissions Process

Applications for admission are reviewed when all required credentials are received. Incomplete applications will not be reviewed. Official transcripts must be received for the application to be reviewed. The review focuses on the academic history of the applicant and considers all relevant factors. The intent of the University is to offer admission to applicants whose credentials indicate a strong likelihood for success in their selected curricula. It is not possible to accommodate all the applicants who meet the minimum criteria, and some programs select the best qualified from those meeting the minimum requirements.

By delegation from the Chancellor, the Admissions Advisory Committee has the authority to grant limited exceptions to the standard entrance requirements set forth in this *Catalog* and prescribed by the University of North Carolina Board of Governors policies. Exceptions for student-athletes are made by the Chancellor after review and recommendation by the Director of Athletics, the Faculty Athletics Representative, and the Athletic Academic Center under the direction of the Provost and Vice Chancellor for Academic Affairs. Notification of the admissions decision is available as soon as the decision is made. Some programs have special admissions processes and may follow alternate timelines.

Students planning to live on campus should complete the online housing application at housing.charlotte.edu after they receive confirmation of their acceptance in the mail.

Information about undergraduate programs is available from:

Office of Undergraduate Admissions
Gage Undergraduate Admissions and Visitors Center
University of North Carolina at Charlotte
9201 University City Boulevard
Charlotte, North Carolina 28223-0001
Telephone: 704-687-5507
Fax: 704-687-1664
E-mail: admissions@charlotte.edu
Web: admissions.charlotte.edu

### International Admissions

International students should contact the Office of Undergraduate Admissions by telephone at 704-687-5507, by fax at 704-687-1664, or by email at intl.admissions@charlotte.edu. The primary focus is the admission of students on non-immigrant visas. Undergraduate Admissions processes applications, evaluates credentials, makes admissions decisions, and serves as consultant to prospective students, academic advisors, sponsors, and agencies representing international students and departments. When students are admitted, Undergraduate Admissions provides documentation to the International Student/Scholar Office for Immigration purposes. Application forms and additional information are available online at admissions.charlotte.edu/international.

## When to Apply

Applicants are advised to submit their applications for admission well in advance of the schedule below. The suggested deadline dates are based on the amount of time generally required to process an application and inform the applicant of the admission decision. **Early application is generally advantageous and particularly for programs with limits on the number of new students that can be accepted.**

| Freshman Deadline Dates | |
|---|---|
| Applications Completed By: | Applicants Notified of Decision By: |
| November 1 | January 30 |
| February 1* | April 1 |

**Freshman students whose applications are completed after the February 1 date will be considered on a space available basis.*

| Transfer Deadline Dates | | | |
|---|---|---|---|
| Term | Suggested Application Date | Priority Deadline | Term Begins |
| Fall | February 15 | May 15 | August |
| Spring | September 1 | November 15 | January |
| 1st Summer | January 1 | May 1 | May |
| 2nd Summer | January 1 | May 15 | July |

Deadlines for **international students** are earlier. Please refer to the Undergraduate Admissions website for current deadlines.

**The University may alter the dates for acceptance of applications without further notice in accordance with available resources and the enrollment limitation established by the North Carolina General**

**Assembly. For the most current deadlines, please refer to the Undergraduate Admissions website at admissions.charlotte.edu.**

# Admission Application

The applicant is responsible for supplying all required credentials. Credentials must be official documents and not student copies. Nondisclosure of an applicant's complete academic history will result in rejection of the application and/or immediate dismissal from the University.

## Freshmen Applicants

For Freshman Admission, the application includes:

1) A completed online *Application for Undergraduate Admission* form
2) Application fee of $75 (nonrefundable and nondeductible)
3) Official high school transcript, GPA computed on a 4.0 scale, and senior courses in progress (A high school equivalency certificate or GED may be submitted in lieu of a high school diploma)
4) Essay
5) Additional credentials, specified below, for international applications

*Please note: Effective Fall 2025, students with a weighted GPA between 2.5 and less than 2.8 must submit SAT or ACT scores. Effective Fall 2026, a score of 17 or higher on the ACT or a 930 or higher on the SAT will be required. Students with a weighted GPA of 2.8 or higher have the option to submit these scores.*

## Transfer Applicants

For Transfer Admission, the application includes:

1) A completed online *Application for Undergraduate Admission* form
2) Application fee of $75 (nonrefundable and nondeductible)
3) Official high school transcript (This may be waived for applicants who have already completed an A.A., A.S., A.E., B.A., B.S., or B.F.A. degree or applicants who have more than 24 hours of transferable credit at the discretion of Undergraduate Admissions.)
4) One official transcript from every college attended, including summer sessions and any dual enrollment courses taken while enrolled in high school
5) Additional credentials, specified below, for foreign educated applicants

## International Applicants

For Admission of International Applicants, the application also includes:

1) Official scores on the Test of English as a Foreign Language (TOEFL), Duo Lingo, PTE Academic, or International English Language Testing System (IELTS) if the applicant's native language is something other than English
2) A course by course evaluation for all college coursework completed outside of the United States. Transfer students should submit a document evaluation for high school coursework. First year applicants must submit a course by course evaluation for high school coursework.
3) A Statement of Financial Responsibility showing the applicant's financial resources while in the United States

**Any student whose native language is not English will be required to submit proof of English language proficiency.**

# University Admission Requirements

## Freshman Admission Requirements

Candidates for admission to freshman standing, including transfer applicants who present fewer than 24 hours of transferred credit, must:

1) Submit a completed application for admission. A completed application is defined as the application, essay, and the official transcripts from all schools attended.
2) Have graduated from an approved or accredited high school or have earned an equivalency certificate or G.E.D.
3) Present the following **High School Course Units**: 4 units in *English*, emphasizing grammar, composition and literature; 4 units in *mathematics*, including Algebra I, Algebra II, and geometry, and a higher level mathematics course for which Algebra II is a prerequisite; 2 units in *social studies*, including one unit in U.S. history; and 3 units in *science*, including at least one unit in a life or biological science (e.g., biology), at least one unit in a physical science (e.g., chemistry, physics, physical science), and at least one laboratory course; two additional academic units of English, Mathematics, science, social studies, world languages or computer science. Completion of two sequential world language courses is recommended. It is *recommended* that the candidate for admission also complete a third unit of the same foreign language. Seniors should select a challenging academic schedule that includes English, math, science, social studies (history), and a foreign language.
4) Present satisfactory high school grades.
5) Present all college-level work completed in high school by submitting one official copy from any college or university attended.
6) Request official Advanced Placement (AP), International Baccalaureate (IB), and Cambridge Exam test results to be sent directly to the Office of Undergraduate Admissions (Code 5105).

7) Satisfy any additional requirements for acceptance into their chosen major (if any).
8) Present verification of specific immunizations required by North Carolina state law described later in this section of the *Catalog*. An *Immunizations Form* is available to download online at studenthealth.charlotte.edu.

### Transfer Admission Requirements

Candidates for admission as transfer students must:

1) Submit a completed application for admission. A completed application is defined as the application and the official transcripts from all schools attended, including summer sessions and dual enrollment courses from high school.
2) Satisfy the requirements for freshman admission if they do not present at least 24 hours of transferred credit accepted by UNC Charlotte.
3) Present the High School Course Units (required of all students under the age of 21) specified in the Freshman Admission Requirements. Transfer applicants who did not complete the required course units in high school may earn an Associate in Arts, Associate in Science, Associate in Fine Arts, Associate of Engineering degree, or complete 24 hours of transferable credit.
4) Present an academic average of at least *C* (a grade point average of at least 2.0 on a 4.0 scale) on all post-secondary courses attempted, as calculated by the UNC Charlotte Office of Undergraduate Admissions.
5) Be in good standing at the last college or university attended.
6) Satisfy any additional requirements for acceptance into their chosen major (if any). For more information concerning selective major requirements, please consult the Admissions website at admissions.charlotte.edu.
7) Present verification of specific immunizations required by North Carolina state law described later in this section of the *Catalog*. An *Immunizations Form* is available to download online at studenthealth.charlotte.edu.

**Refer to the Undergraduate Admissions website for the most current requirements.**

***IMPORTANT NOTE:*** *Failure to indicate all institutions of higher education attended on any application for admission or readmission to UNC Charlotte is considered falsification of the application and will result in forfeiture of the transfer of all credits from those institutions attended, as well as possible disciplinary action.*

### Readmission of Former Students

For details on readmission of former students, please see the "Degree Requirements and Academic Policies" section of this *Catalog*.

### Non-Degree Students

Non-degree students are those who are not seeking a degree at UNC Charlotte. On very rare occasions, if space is available, they may enroll in undergraduate courses at the University until they have attempted a total of 18 credit hours with grade evaluation. Students who did not gain admission to a degree-seeking program will not be admitted as a non-degree student. Admission as a non-degree student is up to the discretion of the Office of Undergraduate Admissions. Regular degree students will have preference for places in classes. Non-degree students are expected to conform to the standards required of all students. After reaching the 18-hour limit, non-degree students must be reviewed and be acceptable for regular degree status before continuing at the University. Non-degree international exchange and senior citizen course audit students are exempt from this requirement.

Non-degree students who have done previous college work (including UNC Charlotte) must be eligible to return to the institution last attended.

The student must be 18 years of age or over and must understand at the time of his/her registration that the work completed in non-degree student status will be evaluated in terms of major department and degree requirements only after the student's formal admission to a degree program.

### Visiting Students

Students enrolled at other colleges and universities who wish to take specific courses at the University in a given semester or term may be admitted as visiting students. They register on a space available basis after UNC Charlotte degree-seeking students and must submit a new application for each term they would like to attend as a visiting student.

### Pre-Collegiate Enrichment Program (PEP)

The Pre-Collegiate Enrichment Program (PEP) provides an opportunity for highly qualified students to take college credit courses while enrolled in secondary school. Records of credit earned will be maintained for use at the University or at another institution of higher learning. The program is designed for those students who have exhausted their course offerings at their high school and need to supplement their high school curriculum with college courses. The program is not designed for students who wish to take courses to fulfill high school requirements.

Applicants recommended for participation in the program usually have shown very advanced ability in particular academic areas. The recommendations are normally made by the secondary school principal and are reviewed by the Director of Undergraduate Admissions on an individual basis. PEP students are not permitted to live in campus housing.

Students may only attempt a total of 18 credits while enrolled in the PEP Program. Students wishing to take more than 18 total credits must seek approval prior to registration.

## Admission Requirements for Programs

### Baccalaureate Programs

Additional requirements beyond acceptance into UNC Charlotte may be required for particular baccalaureate program majors. See the individual department and program listings for details.

### Second Baccalaureate Degree

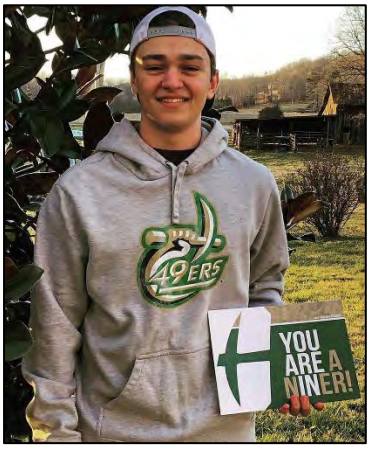
Students who have earned a bachelor's degree from UNC Charlotte and wish to earn a second bachelor's degree should apply for admission through the Office of the Registrar. Students who have earned a bachelor's degree from a college or university accredited by an accepted accrediting body other than UNC Charlotte should apply through the Office of Undergraduate Admissions. The University automatically waives the General Education requirements for each second degree student.

Students may apply for admission to a program leading to a second degree of the same level if the following requirements are met:

1) A completed application must be sent to the Office of Undergraduate Admissions in accordance with the published application dates.
2) The major field selected must be different from that of the first degree.
3) The degree sought must be different from the first when that degree was granted by UNC Charlotte.
4) The applicant must meet the requirements for acceptance into the selected field.

### Undergraduate Certificate Programs

Students who wish to apply for undergraduate certificate programs should consult the Office of Undergraduate Admissions website at admissions.charlotte.edu. If a student has already received a bachelor's degree, they must meet second baccalaureate degree admissions requirements. Students who have not received a bachelor's degree and have attended a college or university must meet transfer admissions requirements and be admitted to a degree program. Students with a high school diploma who have not attended a college or university must meet freshman requirements and be admitted to a degree program. Some certificate programs may have additional requirements. See the individual certificate listing for details.




## Academic Proficiency and Placement

Based on academic records or placement tests, incoming first-year and new transfer students are assessed to determine their proficiency in the written use of English; their mathematical competency level; and their reading skill, vocabulary, and grammar of foreign languages. The objective is to place a student into courses that are commensurate with the student's level of competency; students then register for the course level in which they are placed.

### Language Placement and Course Exemption Process

All new students can determine language placement or language course exemption by the following means: Language Placement Test, the CLEP Test, Advisor Contact or Certification of Proficiency. Students should visit "Guidance on Language Placement and Course Exemption" at languages.charlotte.edu/Language-Placement-Course-Exemption to determine the correct process.

#### Language Placement and Course Exemption Policies

There are no language requirements associated with the General Education Program. Students are required to take language only if it is a requirement of their college or major department. The College of Arts + Architecture and the College of Humanities & Earth and Social Sciences have a language requirement.

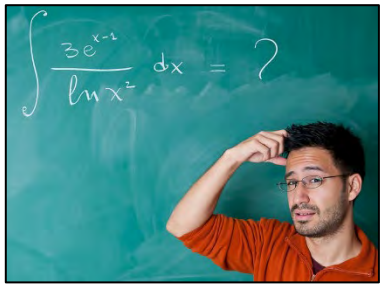
All students within these colleges are required to demonstrate proficiency in a language of their choice through at least the 1202 level. In order to meet this proficiency requirement, students may do one of the following:

- Complete the coursework at UNC Charlotte
- Complete three years of the same language in high school with a grade of C or above
- Achieve the appropriate score on the Language Placement Test
- Receive credit through the CLEP test
- Place out of or be considered exempt from the 1202 level through the Certification of Proficiency process
- Transfer in the equivalent of 1201 and 1202 from another institution
- Earn transfer or transient credit for 1201 and complete the 1202 course, or complete 1201 and place out of or earn transfer or transient credit for 1202
- Transfer in with an A.A., A.S., or A.F.A. degree (for College of Humanities & Earth and Social Sciences)

Although all students in the College of Arts + Architecture and College of Humanities & Earth and Social Sciences are subject to the 1202 proficiency requirement, students in select departments will additionally have to satisfy a proficiency requirement through the intermediate (2000) level, or in rare cases, the advanced (3000) level. Students should consult with their major department to determine whether or not they are required to complete the intermediate or advanced proficiency requirement.

### Mathematics Placement Procedures

All students, both freshmen and transfer, are placed into mathematics using their SAT or ACT scores if those scores are in Banner. Students without these scores in Banner, but who are transferring in the equivalent to college algebra, pre-calculus, or calculus credit, are placed based on the class level of the credit received. Students without these scores in Banner who are not transferring in the math credits required for their program of study must take a placement examination to determine their appropriate entry-level MATH course.




### Writing Placement Procedures

UNC Charlotte uses a self-selection process for students to choose which of our two primary First-Year Writing Courses they will take: WRDS 1103 or WRDS 1104. WRDS 1103 is worth 3 credit hours and is best suited for students who are comfortable with their writing and research skills. WRDS 1104 is a 4-credit-hour course, with the extra hour for a lab/studio component. This class is better suited for students who feel like their writing and research skills need a bit more work to lay the foundation for college success.

All students may also use the Writing Resources Center (WRC) for additional support. To learn more about WRDS 1103, WRDS 1104, and the WRC, visit writing.charlotte.edu.

# Health Requirements

## Health Insurance Requirements

Health insurance is required of all degree-seeking undergraduate students with six or more on-campus credit hours; all degree- or certificate-seeking graduate students with three or more on-campus credit hours; and all international students with an F-1 or J-1 visa, regardless of credit hours.

Students who are currently uninsured may enroll in the Student Health Insurance Plan by completing the enrollment form found on the Student Health Center website at studenthealth.charlotte.edu. Pricing is available on the site as well.

Students with existing health insurance coverage must supply this information online to the Student Health Center every Fall and Spring semester by the posted due date. See the Student Health Center website above for details. Failure to comply will result in automatic enrollment in the Student Health Insurance Plan for the semester.

## Immunization Requirements

To protect all students at UNC Charlotte, North Carolina state law requires proof of immunizations upon entering the University. Under North Carolina regulations, students not in compliance will be dropped from all courses. **Upon learning of admission to the University, students should submit their immunization records immediately.** Immunization Records must be uploaded via the Online Student Health Portal. Further details regarding the immunization requirements and the records submission process are available online from the Student Health Center at studenthealth.charlotte.edu. Please consult the website for more detail about the requirements before submitting records to the University. Although a health physical is not required for admission to the University, students are strongly encouraged to contact their healthcare provider or local health department to discuss additional recommendations for vaccinations.

| COLLEGE/UNIVERSITY VACCINES AND NUMBER OF DOSES REQUIRED | |
|---|---|
| **Vaccines Required** | **Dosage** |
| Tetanus, Diphtheria, Acellular Pertussis (Tdap)[1] | 1 |
| Diphtheria, Tetanus, and/or Pertussis[1] | 2 |
| Polio[2] | 3 |
| Measles[3] | 2 |
| Mumps[4] | 2 |
| Rubella[5] | 1 |
| Hepatitis B[6] | 3 |
| Varicella[7] | 1 |

**FOOTNOTE [1]** - Three doses of tetanus/diphtheria toxoid, of which one must be tetanus/diphtheria/pertussis (Tdap). Students enrolling in a 4-year college or university for the first time on or after July 1, 2008, must receive a tetanus/diphtheria/Pertussis (Tdap) vaccine.

**FOOTNOTE [2] –** An individual attending school who has attained his or her 18th birthday is not required to receive polio vaccine.

**FOOTNOTE [3] –** Measles vaccines are not required if any of the following occur: Diagnosis of disease prior to January 1, 1994; An individual who has been documented by serological testing to have a protective antibody titer against measles and submits the lab report; or An individual born prior to 1957. An individual who enrolled in college or university for the first time before July 1, 1994, is not required to have a second dose of measles vaccine.

**FOOTNOTE [4] –** Mumps vaccine is not required if any of the following occur: An individual who has been documented by serological testing to have a protective antibody titer against mumps and submits the lab report; An individual born prior to 1957; or Enrolled in college or university for the first time before July 1, 1994. An individual entering college or university prior to July 1, 2008, is not required to receive a second dose of mumps vaccine.

**FOOTNOTE [5] –** Rubella vaccine is not required if any of the following occur: 50 years of age or older; Enrolled in college or university before February 1, 1989 and after their 30th birthday; An individual who has been documented by serological testing to have a protective antibody titer against rubella and submits the lab report.

**FOOTNOTE [6] –** Hepatitis B vaccine is not required if any of the following occur: Born before July 1, 1994. Serological testing to document protective antibody titer against Hepatitis B is not acceptable.

**FOOTNOTE [7] –** Varicella vaccine is not required if any of the following occur: Documented physician diagnosis of disease, a student has been documented by serological testing to have a protective antibody titer against varicella and submits the lab report; or a student is born before April 1, 2001.

### International Students and Students Who Have Lived In or Traveled to High Risk Countries/Territories

Vaccines are required as noted above. Additionally, international and other high-risk students are required to have a TB skin test within the 12 months preceding the first day of classes. A TB blood test (T-spot, QuantiFERON Gold Plus) is also accepted. A chest x-ray is required, if TB test is positive.

### Freshman and Transfer Students

Immunization records are not sent with other admission records from your previous school. You must request your immunization records be sent directly to the Student Health Center.

### Immunization Policy Reinstatements

At least 21 days prior to the start of classes, students who are not in compliance will receive a communication from the Student Health Center (SHC) with details on how to comply with state law. Students who remain in noncompliance as determined by the SHC will be withdrawn from all applicable courses by the Office of the Registrar at the end of the thirty (30) day period. Students are therefore strongly encouraged to submit their immunization records prior to the start of the semester. The SHC will also monitor students who are not in compliance but have been approved by the SHC for an extension to receive the necessary immunizations as indicated by a physician's letter. Once the date for the extension expires, and if the student is still not in compliance, the SHC will notify the Office of the Registrar that the student has failed to comply with Immunization Requirements. The Office of the Registrar will then withdraw the student from all applicable courses.

Students will be reinstated to their courses after providing evidence of compliance with immunization requirements to the SHC before the end of the last class day of the semester. This reinstatement pertains only to student enrollment status and does not in any way guarantee that the academic, financial, and/or other consequences of noncompliance with immunization requirements can or will be remedied. Such consequences may include, but are not limited to, impact on immigration status, financial aid eligibility, University housing, and University accounts. Additionally, reinstated students may not be eligible to make up class work, assignments, tests, or exams as faculty are encouraged but are not obligated to allow make-up work as appropriate.

Decisions under this policy cannot be appealed, and students will not be reinstated if they become compliant with immunization policies after the last class day of the semester.

### Contact Information

Questions regarding these mandatory requirements may be directed to the Student Health Center Immunizations Department at 704-687-7424 or immuinfo@uncc.edu.

## New Student Orientation, Registration, and Welcome

### New Student Orientation (NSO)

Once admitted, new undergraduate students are required to complete New Student Orientation (NSO), which includes virtual modules and academic advising, as well as attending an in-person session scheduled during the Summer or immediately prior to the start of the Fall and Spring semesters. Separate programs are offered for new first-year students, transfer students, and their parents and family members. Programs are also offered for the majority of new undergraduate students in Charlotte Online programs, as well as newly readmitted students. (Note: These do not include an in-person component.) NSO prepares students and families to succeed at UNC Charlotte by understanding academic expectations, developing connections with their peers, and learning about important campus processes. Visit the New Student Orientation website for more information.

### International Student Orientation

International Student Orientation, held at the beginning of every semester, is required for non-resident (F-1 and J-1 visas) students. Program topics include immigration, academics, cultural adjustment, and program opportunities. Contact the International Student/Scholar Office or visit their website online at isso.charlotte.edu for more information.

### New Student Welcome

The New Student Welcome is an event attended by students, faculty, and staff to officially welcome new undergraduate students to UNC Charlotte. During the event, students learn about UNC Charlotte's history, mission, values, and engagement opportunities.

# University Regulation of Student Conduct

# University Regulation of Student Conduct

As students willingly accept the benefits of membership in the UNC Charlotte community, they also commit to obligations to observe and uphold the principles and standards of conduct that reflect the values of the UNC Charlotte community.

At UNC Charlotte, *University Policy 406, The Code of Student Responsibility*, fulfills the duty of the Chancellor to regulate matters of student conduct in the University community. *University Policy 407, The Code of Student Academic Integrity*, governs student behavior relating to academic work. All UNC Charlotte students are expected to be familiar with both Codes and to conduct themselves in accordance with these requirements. Any person may report an alleged violation(s) of the Code online at incidentreport.charlotte.edu. Individuals may report crimes or incidents involving imminent threat of harm to Police and Public Safety at 704-687-2200.

The University has also established a program for the prevention of the use of illegal drugs and alcohol abuse (University Policy 711), as well as a policy regulating smoking and tobacco product use on campus (University Policy 707). All UNC Charlotte students are obligated to be familiar with and to conduct themselves in accordance with the standards set forth in these policies.

Additionally, the Student Government Association has created a code called *The Noble Niner* that solidifies the high standard of morals, principles, and integrity that all students should strive to uphold the reputation of excellence at UNC Charlotte.

## The Code of Student Academic Integrity

**legal.charlotte.edu/policies/up-407**

*Below is a brief summary of University Policy 407, Code of Student Academic Integrity. Visit legal.charlotte.edu/policies/up-407 for a full version of that policy.*

The Code of Student Academic Integrity governs the responsibility of students to maintain integrity in academic work, defines violations of the standards, describes procedures for handling alleged violations of the standards, and lists applicable penalties. Except in cases of Research Misconduct, as set forth in Chapter 3, Section III.2 of the Code, the following behavior, or complicity in the following behavior (see examples in Supplemental Procedures), is considered Academic Misconduct under the Code:

A) **Cheating** means using or attempting to use materials, or giving assistance or materials without Authorization to another in any academic exercise that could result in gaining or helping another to gain academic advantage. Cheating includes, but is not limited, to the following actions:
   1) Copying - copying from another's assignment, examination, or other academic exercise;
   2) Use of Unauthorized Materials - using materials or equipment in connection with an assignment, examination, or other academic exercise which have not been authorized by the faculty member, including but not limited to, notes, calculator, websites, Artificial Intelligence, and/or other technology;
   3) Misrepresentation - permitting another to substitute for one's self in an academic exercise, or submitting of an academic exercise that has been prepared by another;
   4) Unauthorized Collaboration - communicating about and/or sharing the work or effort in an academic exercise with another individual or individuals without Authorization.

B) **Fabrication** means providing fabricated information, including inventing or counterfeiting information, in any form in an academic exercise.

C) **Failure to Comply** means failing to comply with a specific instruction related to a condition of protecting academic integrity that has been clearly communicated in a particular course, syllabus, test, assessment, assignment, or other academic exercise.

D) **Falsification** means altering without Authorization any data or information, regardless of communication method (e.g., e-mail or other electronic communication), in an academic exercise.

E) **Misuse of Academic Materials** means sharing, distributing, altering, acquiring, damaging, or making inaccessible academic materials without Authorization, that could result in gaining or helping another to gain an academic advantage.

F) **Multiple Submission** means submitting academic work or substantial portions of the same academic work (including oral reports) in more than one academic exercise or publication without Authorization.

G) **Plagiarism** means presenting the words or ideas of another as one's own words or ideas, including failing to properly acknowledge a source, unless the ideas or information are common knowledge. Plagiarism includes but is not limited to:

   *Verbatim Plagiarism* - copying word-for-word a section of someone else's work, without attribution and without quotation marks.

   *Inadequate/Uncited Paraphrasing* - Failure to cite the rewording of another person's original text, and/or presenting another person's concepts or ideas as one's own without proper attribution. This can include, but is not limited to, changing only a few words or

altering the sentence structure from the original source and/or using Artificial Intelligence without citation.

*Failing to properly acknowledge a source* - Giving incorrect and/or not including information about a source in accordance with the citation style. This may include, but is not limited to, missing in-text citations, missing or omitted sources, and/or using text generated by Artificial Intelligence without attribution.

*Self-plagiarism* - the use of one's own previous work in another context without indicating that it was used previously.

*Mosaic plagiarism* - Patchwriting, and/or reusing a mix of word, phrases, and ideas from a source without indicating which words and ideas have been borrowed and/or without properly citing the source.

A full explanation of these definitions, and a description of procedures used in cases where student violations are alleged, is found in the complete text of University Policy 407, The Code of Student Academic Integrity and its Supplemental Procedures, as they may be modified from time to time. Students are advised to contact the Office of Student Accountability & Conflict Resolution or visit legal.charlotte.edu/policies/up-407 to ensure they consult the most recent edition of the Code.

# The Code of Student Responsibility

**legal.charlotte.edu/policies/up-406**

*Below is a brief summary of University Policy 406, Code of Student Responsibility. Visit legal.charlotte.edu/policies/up-406 for a full version of that policy.*

All UNC Charlotte Students are expected to be familiar with University policies and procedures, and to conduct themselves accordingly.

University Policy 406, Code of Student Responsibility ("the Code") fulfills the duty of the Chancellor to regulate matters of Student behavior in the University community.

University Policy 407, Code of Student Academic Integrity, governs Student behavior relating to academic work. (See above.)

University Policy 501, Nondiscrimination; University Policy 502, Sexual Misconduct and Interpersonal Violence; and University Policy 504, Title IX Grievance Policy, govern behavior related to discrimination, discriminatory harassment, and sexual or interpersonal misconduct, respectively. Any such allegations against Students are processed under those policies and not under this Code. See the Office of Civil Rights and Title IX website for more information.

All Student inquiries concerning the Code of Student Responsibility or the Code of Student Academic Integrity should be directed to the Associate Dean of Students and Director of Student Accountability & Conflict Resolution ("Director").

## Philosophy and Purpose

The mission of Student Accountability & Conflict Resolution is to foster a culture of integrity and personal accountability by helping students understand the impact of their choices on themselves and their community. Through fair and impartial processes, they uphold institutional standards and ensure students are heard, respected, and treated with dignity. They transform challenges into opportunities for learning, personal growth, and responsible decision-making that contribute to a more supportive campus environment.

Consistent with UNC Board of Governors Policy 700.4.2, the University is committed to providing a fair, impartial, and efficient process. All Students are responsible for conducting themselves in a manner that helps enhance an environment of learning in which the rights, dignity, value, and freedom of each member of the academic community are respected.

The University works to create and sustain an environment where freedom of speech and expression are supported and honored. The University has the discretion to regulate the time, place, and manner of exercising these and other Constitutionally-protected rights. In administering this Code, the University will exercise care to preserve the freedom of speech and expression for all in the campus community.

The University must balance its commitment to preserving Student rights, encouraging responsible growth and development of its Students, protecting the rights of those targeted by Student actions, and holding Students accountable for their actions. This balance is achieved through the use of a full spectrum approach that includes adjudicatory and alternative resolution options.

The purpose of this Code is to define what behavior is prohibited, Students' rights and resolution options, and the range of outcomes that may be implemented.

## Prohibited Behaviors, Procedures, and Outcomes

Chapter 3 of the Code (legal.charlotte.edu/policies/up-406#ch3) includes a list of behaviors that are prohibited by the Code, **including, but not limited to**, acts of harm (physical injury, fear/risk, harassment/intimidation/bullying, unwanted conduct, etc.), alcohol violations, disorderly behavior, disruption of University activities, drug violations, false identification, fire safety, hazing, misrepresentation, retaliation, theft, trespassing, unauthorized recording, vandalism, violation of law, violation of University policies/regulations, and weapons violations. For a full explanation of all conduct prohibited under the Code, consult Chapter 3 of the Code at legal.charlotte.edu/policies/up-406#ch3.

Chapter 4 of the Code (legal.charlotte.edu/policies/up-406#ch4) provides the accountability procedures. Specific procedures for adjudicating cases are detailed in the Procedures for Case Resolution supplemental to the Code.

Chapter 5 of the Code (legal.charlotte.edu/policies/up-406#ch5) details possible outcomes imposed on Students or Student Organizations found responsible for violating the Code.

Chapter 6 of the Code (legal.charlotte.edu/policies/up-406#ch6) provides information on appeals.

**A full explanation of prohibited behaviors, and a description of procedures used in cases where violations are alleged, including appeals processes, are found in the complete text of The Code of Student Responsibility and the Procedures for Case Resolution, as they may be modified from time to time. Students are advised to contact the Office of Student Accountability and Conflict Resolution or visit legal.charlotte.edu/policies/up-406 to ensure they consult the most recent edition.**

# Sexual Misconduct and Interpersonal Violence

https://legal.charlotte.edu/chapters/chapter-500-nondiscrimination

The University of North Carolina at Charlotte is committed to providing a respectful, safe, and inclusive environment for all University community members and guests of the University. Unlawful discrimination and discriminatory harassment, including any form of sexual misconduct or interpersonal violence, undermine the mission of the University and will not be tolerated. The University also strictly prohibits retaliation against individuals for reporting sexual misconduct or interpersonal violence or for cooperating in the University's investigation of sexual misconduct or interpersonal violence. The University's applicable policies, available in Chapter 500 of University Policies, set forth expectations for creating and maintaining an environment free of sexual misconduct and interpersonal violence. The procedures applicable to specific complaints, including but not limited to retaliation, are available on the Office of Civil Rights and Title IX website.

Sexual misconduct (including but not limited to sexual harassment and sexual exploitation) and interpersonal violence (including sexual assault, dating violence, domestic violence, and stalking) are violations of both law and University policy and will not be tolerated in the University community. Such behaviors are particularly sensitive issues that could affect any member of the University community, and as such, reports of sexual misconduct and interpersonal violence will be dealt with promptly and equitably by the University administration, regardless of whether the allegations are made formally, informally, in writing, or verbally.

Anyone may report alleged sexual misconduct or interpersonal violence against a student, faculty member, or staff member to the University's Office of Civil Rights and Title IX. All University employees are expected to report alleged violations of these policies to the University's Office of Civil Rights and Title IX and may be subject to disciplinary action, up to and including dismissal, for failing to report.

The University's Office of Civil Rights and Title IX will contact the individual who reportedly experienced a violation of the applicable policy and discuss with the individual available accommodations, resources, and resolution options. The University's Office of Civil Rights and Title IX will assist the individual in utilizing the applicable University process for that individual's report, as set forth on the Office of Civil Rights and Title IX website. For more information, see civilrights.charlotte.edu/.

# The Program to Prevent Use of Illegal Drugs and Alcohol Abuse

http://legal.charlotte.edu/policies/up-711

*Below is a brief summary of University Policy 711, Program to Prevent Use of Illegal Drugs and Alcohol Abuse. Visit legal.charlotte.edu/policies/up-711 for a full version of that policy.*

In keeping with efforts to maintain an environment that supports and encourages the pursuit and dissemination of knowledge, it is the policy of The University of North Carolina at Charlotte to consider the use of illegal drugs or alcohol abuse by students, faculty and staff or by others on premises under University control to be unacceptable conduct that adversely affects the educational environment.

To remind students, faculty, and staff of their responsibilities for maintaining a drug-free environment, this Policy will be distributed throughout the University community each year. Further, the University considers a sound awareness, education, and training program indispensable in combating illegal use of drugs and alcohol abuse, both as a preventive measure and as a remedy. The scope of the University program addresses the awareness needs of students, faculty, administrators, and other staff members and includes the following minimum components.

- The health hazards associated with the use of illegal drugs and alcohol abuse.
- The incompatibility of the use of illegal drugs or abuse of alcohol with maximum achievement of personal, social, and educational goals.
- The potential legal consequences (including both criminal law and University discipline) of illegal drug use and alcohol abuse.
- The effective use of available campus and community resources in dealing with illegal drug use and alcohol abuse problems.

It is the responsibility of all students, faculty, and staff to conduct themselves in a way that contributes to an environment free of illegal drug use and abuse of alcohol. In addition, students, faculty and staff are responsible, as citizens, for knowing about and complying with the provisions of North Carolina law that make it a crime to possess, sell, deliver, or manufacture those drugs designated collectively as "controlled substances" in Article 5 of Chapter 90 of the North Carolina General Statutes, as well as federal law (Drug Free Workplace Act),

which prohibits unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance in the workplace of any employer receiving federal grant funds.

The Director of the Center for Wellness Promotion is responsible for designing and carrying out a program of awareness education and training for students on the subject of preventing the illegal use of drugs and abuse of alcohol. The Center also coordinates a collegiate recovery program, which provides consultation and referral to appropriate facilities in the community for students who may be in need of treatment for substance use disorders and support to students in recovery from chemical dependence.

The Director of the Counseling and Psychological Services (CAPS) shall, within the limits of available resources, provide services and programs to students seeking assistance with problems of illegal drug use or alcohol abuse. In cases in which the treatment needs of such students exceed available campus resources, the Center for Integrated Care shall provide referral to appropriate facilities in the community.

The University's program emphasizes collaboration with local resources, including the Center for Prevention Services, Dilworth Center for Chemical Dependency, Anuvia Prevention and Recovery Center, McLeod Addictive Disease Center, Atrium Health Behavioral Health Charlotte, Eastover Psychological and Psychiatric Group, The Insight Program, Alcoholics Anonymous - Charlotte, Narcotics Anonymous - Charlotte, Al-Anon - Charlotte, and Carolina Nar-Anon. To this end, the University shall participate in the Charlotte-Mecklenburg Drug Free Coalition and will work with local advisory boards to further collaborate between the University and the Charlotte community.

The University's awareness, education, and training efforts stress prevention. The goal of these efforts is (1) to encourage non-users of illegal drugs and alcohol to continue to be non-users, (2) to encourage users of alcohol to do so safely and responsibly, and (3) to encourage users of illegal drugs to stop such use.

The use of illegal drugs and the abuse of alcohol are considered by the University to be problems that can be overcome. Therefore, the educational and rehabilitative services cited above are available on a confidential basis. However, the possession, sale, delivery, or manufacture of illegal drugs will not be tolerated on campus or off campus in the event that the interests of the University may be affected.

The University will cooperate fully with law enforcement agencies and will apply appropriate disciplinary procedures should a student violate criminal statutes with regard to illegal drugs or alcohol abuse. Violations may subject a student to prosecution and punishment by civil authorities **and** to conduct action by the University.

When a student has been charged by the University with a violation of policies concerning illegal drug use or alcohol abuse, they may be suspended from enrollment before initiation or completion of regular disciplinary proceedings if the Chancellor or the Chancellor's designee concludes that the student's continued presence within the University community would constitute a clear and immediate danger to the health or welfare of other members of the University community. If such a suspension is imposed, an appropriate hearing of the charges against the suspended person shall be held in accordance with the Code of Student Responsibility.

# Smoking and Use of Tobacco Products

## on University Property

legal.charlotte.edu/policies/up-707

*Below is a brief summary of University Policy 707, Smoking and Use of Tobacco Products on University Property. Visit legal.charlotte.edu/policies/up-707 for a full version of that Policy.*

The University of North Carolina at Charlotte has a vital interest in maintaining a healthy and safe environment for its students, faculty, staff and visitors while respecting individual choice about smoking and use of tobacco products. Consistent with these concerns and with North Carolina law, the following Policy establishes restrictions on smoking and use of tobacco products on University Property and provides procedures for accommodating the preferences of both smokers and non-smokers.

For the purposes of this Policy:

A) "Smoking" is defined as the use or possession of a lighted cigarette, lighted cigar, lighted pipe, or any other lighted tobacco product, or the use of an electronic inhaler that employs a mechanical heating element, battery, or electronic circuit to heat a liquid nicotine solution contained in a vapor cartridge, such as an electronic cigarette, electronic cigar, electronic cigarillo, or an electronic pipe.

B) “Tobacco product” means a cigarette, a cigar, chewing tobacco, vapor product, or any other product that contains tobacco and is intended for inhalation, oral use, or nasal use. The term does not include nicotine patches, nicotine gum, nicotine lozenges, or other tobacco cessation products.

C) A "Building" is defined as any permanent or temporary structure utilized for the support, shelter or enclosure of people, animals, or property. "Buildings" include, but are not limited to: residence halls; classroom and office buildings; workshops; shuttle, light rail, and bus stops; all recreational and athletic facilities, including athletic fields, gymnasiums, and stadiums; parking decks; stairwells; inside and outside dining areas; vending areas; breezeways; and connectors.

D) A "University Building" is defined as any Building owned, leased as lessor, or the area leased as lessee and occupied by UNC Charlotte.

E) "University Property" means University Buildings and grounds owned, leased, operated, controlled, or supervised by UNC Charlotte.

F) A "University Vehicle" is defined as a vehicle owned or leased by UNC Charlotte.

G) A "Designated Smoking Area" is defined as an exterior area on the UNC Charlotte campus designated by the Chancellor or the Chancellor's designee as a place for smoking. Designated Smoking Areas will be marked by proper signage, and are subject to the provisions in Section III of this Policy.

**Section III.** The following restrictions apply to smoking and use of tobacco products on University Property:

A) Smoking and use of tobacco products is prohibited within all University Buildings.
B) Smoking is prohibited within 100 linear feet of any University Building unless otherwise allowed under subsection III. D.
C) Smoking and use of tobacco products in University Vehicles is prohibited.
D) Smoking is permitted on University Property in Designated Smoking Areas. See the Smoking Policy Map at https://facilities.charlotte.edu/our-services/maps/printable-campus-maps.

Additional restrictions on smoking or use of tobacco products required for safety reasons may be imposed by the University on a case-by-case basis. Areas with such restrictions will be identified by signage.

Cooperation and consideration between smokers and non-smokers, and between users and non-users of tobacco products is necessary to ensure the successful implementation of this Policy. Effective implementation of this Policy depends upon the courtesy, respect, and cooperation of all members of the University community.

Violation of this Policy may subject a student to conduct action under the Code of Student Responsibility.

# Noble Niner Code

studentaffairs.charlotte.edu/about-us/resources/noble-niner

The Noble Niner Code was authored by the Student Government Association and describes the ideals which every Charlotte 49er student can ideally reach as they become a fully actualized individual.

It was approved by the UNC Charlotte Board of Trustees, and is now adopted as an official document of the University.

### Scholarship
*A Niner shall strive for academic excellence in and out of the classroom while maintaining academic integrity.*

### Integrity
*A Niner shall act to uphold and improve one's self, the community, and the high standards of the institution.*

### Respect
*A Niner shall welcome all aspects of individuality and self-worth while embracing the learning opportunities that our community provides.*

### Accountability
*A Niner shall hold others responsible for their actions while accepting responsibility for one's own.*

### Dignity
*A Niner shall appreciate the intrinsic value of the institution and work to preserve the 49er environment.*

### Honor
*A Niner shall appreciate students, faculty, administration, and staff as contributing members of the University community.*

### Compassion
*A Niner shall demonstrate genuine consideration and concern for the needs, feelings, ideas, and well-being of others.*

### Character
*A Niner shall exemplify all qualities and traits that promote fellowship and camaraderie among the student body, faculty, staff, and administration.*

# Degree Requirements and Academic Policies

# Degree Requirements and Academic Policies

*Each student is responsible for the proper completion of his or her academic program, for familiarity with the Catalog, for maintaining the grade point average required, and for meeting all other degree requirements. Students assume academic and financial responsibility for the courses in which they enroll and are relieved of these responsibilities only by formally terminating enrollment.*

## Academic Advising

advising.charlotte.edu

Each student at UNC Charlotte is assigned an academic advisor in the student's major field of study. Students who have declared a major, minor, or pre-major should seek advising from their advisor in their College's advising center or department. Students who have more than one major or minor should seek advice from each of their assigned advisors in each academic department. Students who have declared a major and are unable to identify their advisor should contact their major department. Students who have not chosen or been admitted to a major or pre-major program are enrolled as students of University College (UCOL) and are assigned an advisor from the University Advising Center. The University Advising Center also provides services to students who are transitioning from one major to another. A student may learn how to find their assigned advisor by visiting advising.charlotte.edu.

In helping students achieve their educational and career goals, advisors will focus on enhancing the students' transition from high school or another college/university, will offer assistance in understanding University policies and procedures, and will refer students to campus services that will best ensure the students' success both on campus and in meeting their career goals. The advisors will also facilitate the development of decision-making skills critical to success in college and life. Each student's assigned advisor will communicate regularly with the student throughout the year about important dates, programs, and services that will help ensure success at UNC Charlotte. Students are encouraged to maintain contact with appropriate advisors throughout their university career.

The advisor assists the student to develop a plan of study based on the student's prior preparation and objectives. The academic advisor will provide academic advice and counsel, but the final responsibility for ensuring that program requirements are met remains that of the student.

## Baccalaureate Degree Progression

### Credit Hours

A credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement. UNC Charlotte adheres to the Carnegie unit, which is a nationally recognized equivalency that consists of not less than:

1) 750 minutes of classroom or direct faculty instruction and a minimum of 1500 minutes of out of class student work for one semester hour of credit. Each credit hour corresponds to 50 minutes per week of classroom or direct faculty instruction and 100 minutes of out of class work per week for a 15 week semester, or the equivalent amount of work over a different amount of time; or
2) At least an equivalent amount of work as required in paragraph (1) of this definition for other academic activities or instructional modes of delivery as established by the institution including distance education, hybrid, and face-to-face instruction, laboratory work, internships, practica, studio work, and other academic work leading to the award of credit hours.

### Course Load

A student should complete an average of 15 credit hours each Fall and Spring semester to complete a bachelor's degree in four academic years. Enrollment in more than 18 credit hours in a Fall or Spring semester requires advance approval (via Academic Petition at academicpetition.charlotte.edu) of the dean of the student's major college. An undergraduate student enrolled in 12 or more credit hours is considered to be a full-time student and must pay full tuition and fees.

Enrollment in the Summer semester is optional; a maximum load for an undergraduate student enrolled in the Summer semester is 7 credit hours per half term for a total of 14 credit hours. Enrollment in more than 7 credit hours in a Summer half term or 14 credit hours in a Summer semester requires advance approval (via Academic Petition at academicpetition.charlotte.edu) of the dean of the student's major college. Successful academic achievement typically requires two or more hours of preparation per credit hour per week outside of class. For example, enrollment in 16 credit hours would require minimally 32 hours of preparation per week.

## Student Classification

At the beginning of each semester, students working toward a bachelor's degree are classified on the basis of earned credit hours:

| CLASSIFICATION | EARNED CREDIT HOURS |
|---|---|
| Freshman | 0-29 |
| Sophomore | 30-59 |
| Junior | 60-89 |
| Senior | 90 or more |

# Baccalaureate Degree Requirements

## Credit Hours and Major

All baccalaureate degrees require completion of 120 credit hours (except for programs that have applied for and received a waiver to exceed 120 credit hours from the UNC Charlotte Board of Trustees), including all requirements for a major field of study. Specific requirements for degrees and programs are presented under the college and departmental sections of this *Catalog*.

## General Education

All baccalaureate degrees require completion of a common set of General Education requirements. Refer to the General Education Program section of this *Catalog*.

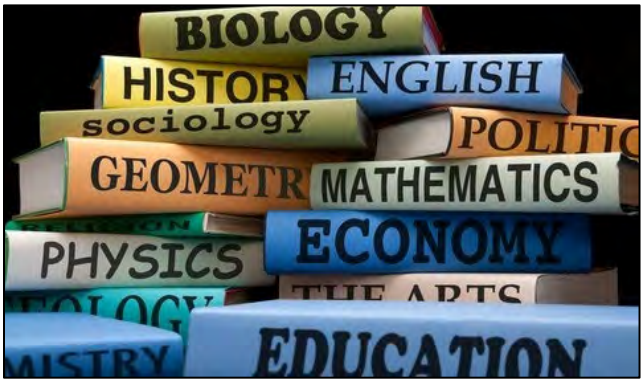
## Residence Requirement

To graduate, a student must earn at least 25% of baccalaureate degree requirements at UNC Charlotte, including the last 12 credit hours of work in the major field and at least 6 credit hours of any minor field of study. Coursework taken in residence shall be construed to mean work offered by UNC Charlotte.

- Earning 25% of the degree (the equivalent of 30 credit hours) at UNC Charlotte is a requirement for accreditation by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC). Because this is an accreditation standard, there are no exceptions allowed.
- Exceptions to the requirement of 12 credit hours in the major *may* be made with the approval of the dean of the college of the student's major.

## Grade Point Averages

To graduate, a student must be in good academic standing and have earned a grade point average of at least 2.0 and a grade point average of at least 2.0 in the major and in any minor. Some programs require a higher grade point average. The major/minor grade point average is calculated using only courses which satisfy the major/minor requirements. Courses must have been successfully completed and credit earned (subject to the University's repeat policy under "Grading and Related Policies" section). Specific requirements for degrees and programs are presented under the college and departmental sections of the *Undergraduate Catalog*.




# General Education

gened.charlotte.edu

The General Education program is an integral element of a student's educational experience at UNC Charlotte. Central to this is the idea that the elements of a student's education are connected in ways that enable them to develop the knowledge, insights, and abilities that will prepare them for their future careers and to be educated citizens who can contribute to our communities. As such, general education has a critical role to play in a students' education, providing a broad foundation of learning that ensures students can apply knowledge and skills in a variety of contexts and disciplines.

At UNC Charlotte, the General Education program is organized around four competencies. Designed to ensure that students connect the breadth of learning that comes from exploring ways of knowing across a diverse range of disciplines to the in-depth knowledge and skills that they experience in their major. That integrative vision is accomplished by the **Core Competencies – Communication, Quantitative / Data, Critical Thinking, and Engagement Across Perspectives** that frame the entire general education curriculum. These competencies are visibly interwoven into the different elements of the lower-division general education requirements so that students can develop the ability to apply these competencies in different contexts. These competencies are also fully integrated into the requirements for each major with intentional connections back to foundational courses which will enable students to re-engage with and deepen their mastery of these competencies in the context of the discipline.

Students should seek advice concerning completion of their General Education requirements from an advisor in their department or college.

The General Education Program is administered by University College, but individual courses are taught by faculty from all of the colleges. Thus, requests for exceptions to any aspects of the General Education requirements for individual students must be approved by the Dean of University College, but matters relating to the course itself need to be addressed by the department and college offering the course. Some transfer students may be exempt from the General Education Requirements; see the Transfer Credit and Credit for Prior Learning section for details.

# I. Communication Competency (3-4 credit hours)

The communication competency teaches students to create, use, and interpret messages to generate meanings within and across various contexts. Students are required to take either WRDS 1103 or WRDS 1104, which serves as the foundational course for this competency. WRDS 1104 includes the same face-to-face content as WRDS 1103, but also includes an online writing studio that provides students with additional opportunities to develop skills. After completing one of these courses, students are expected to be prepared to produce effective college-level writing and editing.

*Select one of the following:*
WRDS 1103 - Writing and Inquiry in Academic Contexts I and II (3)
WRDS 1104 - Writing and Inquiry in Academic Contexts I and II with Studio (4)

# II. Quantitative/Data Competency Courses (6 credit hours)

The Quantitative / Data competency develops a student's ability to analyze, manipulate, and interpret quantitative information and data. Students are required to complete 6 credit hours in mathematics, statistics, deductive logic or computer science from the following list, and of those at least 3 credit hours must be designated as a MATH or a STAT course. These courses serve as the foundation for the quantitative/data competency.

## Mathematics, Statistics, Deductive Logic, or Computer Science

Students should consult with their advisor to determine which courses are appropriate.

ITSC 1110 - Introduction to Computer Science Principles (3)
MATH 1100 - College Algebra (3)
MATH 1101 - College Algebra with Workshop (4)
MATH 1102 - Introduction to Mathematical Thinking (3)
MATH 1103 - Precalculus Mathematics for Science and Engineering (3)
MATH 1105 - Finite Mathematics (3)
MATH 1120 - Calculus (3)
MATH 1121 - Calculus for Engineering Technology (3)
MATH 1165 - Introduction to Discrete Structures (3)
MATH 1241 - Calculus I (3)
MATH 1242 - Calculus II (3)
MATH 1340 - Mathematics for Elementary Teachers I (3)
MATH 1341 - Mathematics for Elementary Teachers II (3)
PHIL 2105 - Deductive Logic (3)
STAT 1220 - Elements of Statistics I (BUSN) (3)
STAT 1221 - Elements of Statistics I (3)
STAT 1222 - Introduction to Statistics (3)
STAT 1322 - Introduction to Statistics II (3)

*Note: Most undergraduates at UNC Charlotte major in programs that require mathematics or statistics as related work. For these students, the related mathematics requirements determine the courses taken to meet the General Education requirement. Students in majors that do not require related work in mathematics should consult with their advisor to determine which courses they should take.*

# III. Critical Thinking Competency

The critical thinking competency develops a student's ability to identify and analyze problems, evidence, and solutions. CTCM 2530 serves as the foundational course for this competency. This course also builds on the foundation of the communication competency that was introduced in WRDS 1103 or WRDS 1104. Critical thinking and communication skills are recognized as core competencies for students earning a baccalaureate degree, regardless of major. While students continue to develop these skills in advanced courses in their major, the General Education program provides an important foundation. Therefore, all students must take CTCM 2530.

*Select the following:*
CTCM 2530 - Interdisciplinary Critical Thinking and Communication (3)

Students must pass WRDS 1103 or WRDS 1104 AND have Sophomore standing or higher to register for CTCM 2530.

Transfer students may or may not have met the Critical Thinking and Communication (CTC) requirement in courses taken at previous institutions. Students should check their degree audit in DegreeWorks to see if they have met this requirement.

# IV. Global and Local Themes (9 credit hours)

UNC Charlotte's General Education program ensures that students have opportunities to engage in sustained informed inquiry into complex and challenging questions that we face as a society. This integrative vision is accomplished by the three Global and Local Theme courses. These theme courses will provide students with the opportunity to explore related sets of questions from the perspective of the social sciences, arts, and humanities. These courses also serve as the foundation for developing a student's competency in engaging across perspectives.

## Global Intersections and Engagement Theme

The Global Intersections and Engagement Theme is grounded in the premise that it is essential for students to understand and engage with the increasingly interconnected global society in which we live both as individuals and as members of society. The courses in the Global Theme will give students this opportunity by exploring the many different ways in which – as individuals and as members of our society – we interact with and are influenced by individuals, cultures, and communities from across the globe. Students should take one global course in the social sciences and one global course in the arts/humanities for a total of two global themes courses.

### Global Social Science (3 credits)

Students are required to complete one Global Social Science course selected from the list below:

AFRS 1501 - Global Social Science: Africana Studies (3)
ANTH 1501 - Global Social Science: An Introduction to Anthropology (3)
CAPI 1501 - Global Social Science: Capitalism in Global Context (3)
COMM 1501 - Global Social Science: Global and Intercultural Communication (3)
ECON 1501 - Global Social Science: Economics of Global Issues (3)
ESCI 1501 - Global Social Science: Environment, Society, and Sustainability (3)
GEOG 1501 - Global Social Science: World Geography (3)
GLST 1501 - Global Social Science: Globalization and Interdependence (3)
HONR 1501 - Global Social Science (3)
LTAM 1501 - Global Social Science: Introduction to Latin American Politics and Society (3)
POLS 1501 - Global Social Science: Introduction to Comparative Politics (3)
SOCY 1501 - Global Social Science: Sociological Approaches to Global Issues (3)

**Global Arts/Humanities (3 credits)**
Students are required to complete one Global Arts/Humanities course selected from the list below:

ARBC 1502 - Global Arts/Humanities: Modern Arab Culture (3)
ARCH 1502 - Global Arts/Humanities: Global Architecture, Culture, and Environment (3)
ARTA 1502 - Global Arts/Humanities: Art in a Global Context (3)
CHNS 1502 - Global Arts/Humanities: Chinese Culture in the World (3)
DANC 1502 - Global Arts/Humanities: Dance in Global Contexts (3)
ENGL 1502 - Global Arts/Humanities: Global Connections in English Studies (3)
FILM 1502 - Global Arts/Humanities: Introduction to Film and Media Art (3)
FRAN 1502 - Global Arts/Humanities: French and Francophone Cultures (3)
FREN 1502 - Global Arts/Humanities: French and Francophone Cultures (3)
GERM 1502 - Global Arts/Humanities: German and German-Speaking Cultures (3)
HIST 1502 - Global Arts/Humanities: Issues in Global History (3)
HONR 1502 - Global Arts/Humanities (3)
ITLN 1502 - Global Arts/Humanities: Italian Culture in the World (3)
JAPN 1502 - Global Arts/Humanities: Japanese Studies (3)
LACS 1502 - Global Arts/Humanities: Introduction to Global Cultures (3)
LTAM 1502 - Global Arts/Humanities: Introduction to Latin American History and Culture (3)
MUSC 1502 - Global Arts/Humanities: Music in Global Communities (3)
PHIL 1502 - Global Arts/Humanities: Global and Comparative Philosophy (3)
RELS 1502 - Global Arts/Humanities: Other Worlds (3)
SPAN 1502 - Global Arts/Humanities: Cultures of the Hispanic World (3)
THEA 1502 - Global Arts/Humanities: Theatre in Global Contexts (3)
WGST 1502 - Global Arts/Humanities: Introduction to Gender Studies Around the World (3)

### Local Intersections and Engagement Theme

The Local Intersections and Engagement Theme is grounded in the premise that it is essential for students to understand and engage with the fact that we live in a nation that has been shaped by a range of cultural, social, economic, and political identities that influence how different groups experience their lives. The courses within the Local Theme will give students this opportunity by exploring the many different ways in which – as individuals and as members of communities – we interact with and are influenced by other individuals, cultures, and communities in our society. Students should take one local course in the social sciences , arts or humanities.

**Local Social Science, Arts or Humanities (3 credit hours)**
Students are required to complete one Local Social Science, Arts or Humanities course selected from the list below:

AFRS 1512 - Local Arts/Humanities: Africana Studies (3)
ANTH 1511 - Local Social Science: Money, Health, and Happiness (3)
CHNS 1512 - Local Arts/Humanities: Chinese and Chinese Culture in the U.S. (3)
CJUS 1511 - Local Social Science: Foundations of Criminal Justice (3)
COMM 1511 - Local Social Science: Health, Well-Being, and Quality of Life (3)
DANC 1512 - Local Arts/Humanities: Dance in the United States (3)
EDUC 1511 - Local Social Science: Public Education and Schooling in the U.S. (3 to 4)
ENGL 1512 - Local Arts/Humanities: Local Connections in English Studies (3)
FRAN 1512 - Local Arts/Humanities: French and Francophone Cultures in the U.S. (3)
FREN 1512 - Local Arts/Humanities: French & Francophone Cultures in the U.S. (3)
GEOG 1511 - Local Social Science: Urban and Regional Planning (3)
HAHS 1511 - Local Social Science: Issues of Health and Quality of Life (3)
HONR 1511 - Local Social Science (3)
HONR 1512 - Local Arts/Humanities (3)
ITLN 1512 - Local Arts/Humanities: Italian Culture in the U.S. (3)
MUSC 1512 - Local Arts/Humanities: Music in U.S. Communities (3)
PHIL 1512 - Local Arts/Humanities: Philosophy and Community (3)
RELS 1512 - Local Arts/Humanities: Religions in America (3)
SOCY 1511 - Local Social Science: Sociological Approaches to Local Issues (3)
SOWK 1511 - Local Social Science: The Field of Social Work (3)
SPAN 1512 - Local Arts/Humanities: US Hispanic, Latina/o/x Topics (3)
THEA 1512 - Local Arts/Humanities: Theatre in the United States (3)
WGST 1512 - Local Arts/Humanities: Introduction to Gender Studies in the U.S. (3)

## V. Natural Sciences (7 credit hours)

The critical thinking and quantitative/data competencies are reinforced in the natural sciences. These courses introduce students to the methods of various science disciplines, provide an understanding of the current scientific knowledge of the world, how that knowledge is secured, and how scientific knowledge changes over time. Students must take two courses from the list below, one of which must be taken with its corresponding laboratory (L) course, for a total of 7 credits in the natural sciences. Students should consult with their advisor to determine which courses are appropriate.

*Select two courses, one of which must be taken with its corresponding laboratory (L) course:*

ANTH 2141 - Principles of Biological Anthropology (4)
ANTH 2141L - Principles of Biological Anthropology Lab (0)
BINF 1101 - Introduction to Bioinformatics and Genomics (4) *(includes both lecture and lab)*
BIOL 1110 - Principles of Biology I (3)
BIOL 1110L - Principles of Biology I Laboratory (1)
BIOL 1115 - Principles of Biology II (3)
BIOL 2120 - General Biology I (3)
BIOL 2120L - General Biology I Laboratory (1)
CHEM 1111 - Chemistry in Today's Society (3)
CHEM 1111L - Laboratory in Chemistry (1)
CHEM 1112 - Chemistry in Today's Society (3)
CHEM 1112L - Laboratory in Chemistry (1)
CHEM 1200 - Fundamentals of Chemistry (3)
CHEM 1203 - Introduction to General, Organic, and Biochemistry I (3)
CHEM 1203L - Introduction to General, Organic, and Biochemistry I Laboratory (1)
CHEM 1204 - Introduction to General, Organic, and Biochemistry II (3)
CHEM 1204L - Introduction to General, Organic, and Biochemistry II Laboratory (1)
CHEM 1251 - General Chemistry I (3)
CHEM 1251L - General Chemistry I Laboratory (1)
CHEM 1252 - General Chemistry II (3)
CHEM 1252L - General Chemistry II Laboratory (1)
ESCI 1101 - Earth Sciences-Geography (3)
ESCI 1101L - Earth Sciences-Geography Laboratory (1)
EXER 2168 - Human Anatomy and Physiology for the Health Professions (3)
EXER 2168L - Human Anatomy and Physiology for the Health Professions Laboratory (1) -
EXER 2169 - Human Anatomy and Physiology for the Health Professions II (3)
EXER 2169L - Human Anatomy and Physiology for the Health Professions II Laboratory (1) -
GEOG 1103 - Spatial Thinking (4) *(includes both lecture and lab)*
GEOL 1200 - Physical Geology (3)
GEOL 1200L - Physical Geology Laboratory (1)
GEOL 1210 - Earth History (3)
GEOL 1210L - Earth History Lab (1)
ITIS 1350 - eScience (4)
ITIS 1350L - eScience Laboratory (0)
METR 1102 - Introduction to Meteorology (3)
METR 1102L - Introduction to Meteorology Lab (1)
PHYS 1100 - Conceptual Physics (3)
PHYS 1100L - Conceptual Physics Laboratory (1)
PHYS 1101 - Introductory Physics I (3)
PHYS 1101L - Introductory Physics I Laboratory (1)
PHYS 1102 - Introductory Physics II (3)
PHYS 1102L - Introductory Physics II Laboratory (1)
PHYS 1130 - Introduction to Astronomy (3)
PHYS 1130L - Introduction to Astronomy Laboratory (1)
PHYS 1201 - Sports and Physics (3)
PHYS 1201L - Sports and Physics Laboratory (1)
PHYS 1202 - Introduction to Physics in Medicine (3)
PHYS 1203 - Physics of Music (3)
PHYS 1203L - Physics of Music Laboratory (1)
PHYS 2101 - Physics for Science and Engineering I (3)
PHYS 2101L - Physics for Science and Engineering I Laboratory (1)
PHYS 2102 - Physics for Science and Engineering II (3)
PHYS 2102L - Physics for Science and Engineering II Laboratory (1)
PSYC 1101 - General Psychology (3)
PSYC 1101L - General Psychology Laboratory (1)

## VI. Foundations of American Democracy (3 credit hours)

The critical thinking and engagement across perspectives competencies are reinforced in the Foundations of American Democracy requirement. This requirement engages students in an exploration of the principles and practices that underpin the United States' democratic system. Through critical analysis of historical documents and contemporary issues, students will develop a nuanced understanding of citizenship and civic responsibility. This course fosters informed engagement in democratic processes, preparing students to contribute thoughtfully to their communities and society at large.

Students are exempted from this requirement if they transfer 60+ credit hours or met this requirement at another UNC System campus or North Carolina Community College.

AMDM 1575 - Engaging with American Democracy (3)
CAPI 1575 - Capitalism and Democracy (3)
HIST 1575 - American Democracy's Past and Promise (3)
POLS 1575 - American Politics (3)

# Declaring Majors and Minors

## Declaration of a Major(s)

Students must complete the requirements for an academic major in order to graduate from the University. Students must, therefore, enroll in a program leading to a baccalaureate degree, and, in some cases, they may choose an area of academic concentration within that degree. In order to be admitted to a degree program, a student must meet all requirements for acceptance into that major and submit an approved "Change of Major/Minor" form through the relevant department to the Office of the Registrar. Students may declare multiple majors presuming they meet the requirements for each degree. Students pursuing multiple majors are encouraged to meet with advisors in each department to ensure they are fulfilling degree requirements.

The choice of a major appropriate for a student's interests, aptitudes, and career goals is a crucial decision during a student's academic career. Undergraduate students may declare a major field of study or pre-professional program upon their enrollment at UNC Charlotte as freshmen or transfer students, or they may enroll in the University as undeclared students in University College (UCOL). Undeclared students should work closely with their advisor in the University Advising Center

to identify and prepare for their chosen field of study, and for that reason, advising is required for all undeclared (UCOL) students each semester. All students should declare and be accepted into a major or a pre-professional program by the time they have earned 60 credit hours; transfer students entering with more than 60 credit hours should make that declaration upon enrollment or during their first semester of attendance. A delay in selecting a major and/or multiple changes of major often prevents graduation in a timely fashion.

## Declaration of Minor(s)

Students who are working on a bachelor's degree at UNC Charlotte have the option to enroll in a program leading to a minor (or minors) provided: (1) the minor field is different from the major field; (2) the student meets the requirements for acceptance into the minor program; and (3) the appropriate application for admission or the "Change of Major/Minor" form is approved and filed with the Office of the Registrar. Minors are optional and may not be mandated by an academic program/major.

## Change of Degree Program, Major, Minor, Concentration

An undergraduate student may change the degree program, major, area of academic concentration, or minor in which they are enrolled and may enroll in a new program of study provided that space is available and they meet the prerequisites for admission to the new program, and submit an approved "Change of Major/Minor" form through the relevant department to the Office of the Registrar. As noted above, changes in major, particularly those made after a student has earned 60 credit hours, may delay graduation.

## Second Baccalaureate Degree or Major

Students who have earned bachelor's degrees from UNC Charlotte or a college or university accredited by an accepted accrediting body may apply to a program leading to a second baccalaureate degree or major provided the major field selected is different from that of the first degree or the degree sought is different from the first granted by UNC Charlotte. In addition, the appropriate application for admission must be filed and approved.

Students seeking a second baccalaureate degree or major must: (1) satisfy residency requirement (refer to Residence section of Baccalaureate Degree Requirements) if their first degree was not earned at UNC Charlotte; (2) achieve a minimum grade point average of 2.0 on all work attempted toward the second degree or major; and (3) satisfy all department and college requirements for the degree or major sought. Students who hold a baccalaureate degree from a college or university accredited by an accepted accrediting body will not be required to satisfy the UNC Charlotte General Education Requirements for a second degree. Students will be issued a transfer credit report and will have their credit from their first degree evaluated. Students who are completing a second baccalaureate degree or major within the same degree (e.g., B.A., B.S.) are not awarded another diploma provided the first degree was earned at UNC Charlotte. Second majors are optional and may not be mandated by an academic program/major.

## Postbaccalaureate Minor

Students who have earned a bachelor's degree from UNC Charlotte may enroll in a program of study leading to a minor provided: (1) the minor field selected is different from any prior major or minor; (2) the student meets the requirements for acceptance into the minor program; and (3) the appropriate application for admission or a "Change of Major/Minor" form is approved and filed at the Office of the Registrar. Students who are completing a baccalaureate minor at UNC Charlotte are not awarded another diploma. Minors are optional and may not be mandated by an academic program/major.

# Registration

registrar.charlotte.edu

The Office of the Registrar is responsible for the management of the registration process by which students enroll in, drop, and withdraw from courses. Through the registration process, students assume academic and financial responsibility for the courses in which they enroll. They are relieved of these responsibilities only by formally terminating enrollment by dropping or withdrawing in accordance with deadlines specified in the Academic Calendar online at r registrar.charlotte.edu/calendar-schedules and the corresponding prorated refund schedule available on the Niner Central website at ninercentral.charlotte.edu/billing-payments-refunds/refunds-financial-aid. If a course is cancelled in which students are enrolled, academic units are obliged to notify those students in a timely manner and to help them find a suitable alternative course, apply a substitution waiver, or use other mechanisms to ensure that degree progress is not impeded.

## Registration Appointment Times

Assignments are made according to student classification and cumulative hours earned for undergraduate students and can be viewed online at ninercentral.charlotte.edu/courses-registration/registration-information.

## Registration Deadlines

University policies determine when students may enroll or adjust their enrollment in courses. General deadlines are shown below and specific deadlines for a given term or part of term are available online at registrar.uncc.edu/printable-calendar.

## Add/Drop Period

The Add/Drop period runs through the 6th business day of the Fall and Spring full terms and on the 2nd business day for Fall and Spring half terms, as well as Summer full and half terms.

During the Add/Drop Period, students can:

- Register for courses
- Drop a course(s) without record (and remain enrolled in other courses)
- Drop all courses without record

## Withdrawal Period

The deadline to withdraw from one or more courses (including withdrawal from all courses) is at the 60% completion point of the term. The precise

date for each term will be published in the Academic Calendar for each term and part of term.

During the Withdrawal Period, students can:

- Withdraw from one or more courses in accordance with the Withdrawal policy
- Change the grade type to Audit or Pass/No Credit
- Opt out of using a grade replacement

Students who experience a personal or medical crisis have the option of requesting a Withdrawal with Extenuating Circumstances (WE) from courses via the Dean of Students Office during the term the crisis begins. If approved, the Dean of Students Office will notify the student's academic department(s).

Students who leave the University before the close of a term without withdrawing officially will receive a failing or unsatisfactory grade (F for undergraduate credit and U for graduate credit) in each course for which they are registered.

## Prerequisites and Permits

All students, including visitors and non-degree students, are required to meet course prerequisites and to obtain the required permissions to enroll in courses through the department which sponsors the course.

## Auditing Courses

With the permission of the instructor, a student may audit any course in which space is available. Fees and procedures for this non-credit enrollment are the same as those for a credit enrollment. The procedure for adding, dropping, or withdrawing from an audit course is the same as for credit enrollments. No student will be allowed to change the designation of a course from audit to credit or from credit to audit after the withdrawal date of the semester (or a proportional period for Summer sessions). Participation of auditors in course discussions and in tests or examinations is optional with the instructor. Students who audit receive no University credit, but they are expected to attend the course regularly.

## Early Entry to Graduate Programs

Exceptional undergraduate students at UNC Charlotte may be accepted into some certificate, master's, and doctoral programs and begin work toward a graduate certificate or degree before completion of the baccalaureate degree. In those programs offering this option, an applicant may be accepted at any time after completion of 75 or more credit hours of their undergraduate coursework, although it is expected that at least 90 credit hours of undergraduate coursework will have been earned by the time the first graduate course is taken. These students will have provisional acceptance status in the graduate program, pending the award of the baccalaureate degree.

To be accepted to this program, the student must complete an application online at mygradschool.charlotte.edu for the given graduate program and be approved for it. In addition, the student must complete the *Early Entry Program Form* online at graduateschool.charlotte.edu/current-students/forms and have it approved by the Undergraduate Advisor, the Graduate Program Director, and the Graduate School. *[Note: The Early Entry Program Form must be approved by the Graduate School before the student begins the Early Entry graduate coursework. Failure to obtain prior Graduate School approval negates the ability to "double count" courses in an accelerated Early Entry Program.]* An undergraduate student must have at least a 3.2 overall GPA and have taken the appropriate graduate standardized test and earned an acceptable score. A given program may have more rigorous admissions criteria. If an Early Entry student has not met the normal admission requirements of a 3.0 overall undergraduate GPA at the end of their baccalaureate degree, she/he will be dismissed from the graduate program.

Students accepted into an Early Entry Program will be considered subject to the same policies that pertain to other matriculated graduate students. However, the undergraduate program will remain the student's primary program. Early Entry students are eligible only for undergraduate-level financial aid, grants, and tuition awards.* Early Entry students are restricted to 15 credit hours of graduate level coursework prior to the completion of the baccalaureate degree. No courses taken before admission to the graduate program may be applied to a graduate degree.

Some Early Entry Programs permit students to "double count" graduate-level coursework towards outstanding requirements for the undergraduate degree. The maximum number of graduate credits which may be "double counted" towards an undergraduate degree varies by program. However, under no circumstances will more than 12 credit hours be double-counted. Students use the Early Entry Program Form to detail which courses they plan to "double count" and which courses will be taken solely for graduate credit. Only those graduate-level courses which are applied towards the undergraduate degree are eligible for undergraduate-level financial aid.

Many graduate programs currently offer an Early Entry option. A list of Early Entry Programs may be found on the Graduate Admissions website at gradadmissions.charlotte.edu/programs/early-entry. To be considered for Early Entry admission, a student must complete and submit an application via the Graduate School's admissions system at mygradschool.charlotte.edu and provide supporting documents.

**Note: Students admitted to an Early Entry Program are not eligible to hold a graduate assistantship since they have not completed a baccalaureate degree. Students admitted into an Early Entry Program pay undergraduate fees and undergraduate tuition for all courses (graduate and undergraduate) for which they register until such time that the baccalaureate degree is completed (typically within two semesters).*

## Accelerated Master's Programs

Exceptional undergraduate students may be accepted into an Accelerated Master's Program whereby they simultaneously pursue the baccalaureate and master's degrees and gain invaluable mentoring and research experience along the way. The Accelerated Master's Program may also be accelerated in which up to 12 credit hours earned at the graduate level may be substituted ("double counted") for required undergraduate hours. A list of Accelerated Master's Programs may be found on the Undergraduate Admissions website at admissions.charlotte.edu/academics/accelerated-masters-programs.

In the programs offering this option, an applicant may be considered for admission to the Master's Program directly from high school with a

minimum GPA 3.75 or above (on a 4.0 scale) and a minimum score of 1220 on the SAT. For details, see the Undergraduate Admissions website at admissions.charlotte.edu/academics/accelerated-masters-programs.

*Note: Students admitted to an Accelerated Master's Program (undergraduate + graduate degrees) are not eligible to hold a graduate assistantship until their final year of study when they are only taking graduate courses. In the Accelerated Master's Program of study, when only graduate courses are taken (typically the final year of study), students are considered "graduate" students and are charged graduate tuition and fees.*

## Dual Undergraduate and Graduate Registration

First undergraduate degree students at UNC Charlotte who are required to take fewer than 12 credit hours of undergraduate work to fulfill all requirements for the bachelor's degree may be allowed during their final semester to enroll in certain courses for the purpose of obtaining graduate credit. Dually enrolled students will continue to be considered undergraduate students and be charged for the courses taken at the undergraduate level. The total credit hours to be carried in this status shall not exceed 12 credit hours, of which no more than 6 may be for graduate credit. On the basis of work attempted prior to the final semester, such students must meet the grade point criteria for admission to a graduate degree program at the University. No course for which credit is applied to an undergraduate degree may receive graduate credit. Permission to take graduate courses under dual registration does not constitute admission to any graduate degree program at the University. (Undergraduate students may also take graduate courses if admitted to an Early Entry Program or an Accelerated Master's Program.)

*Note: Only UNC Charlotte students pursuing their first undergraduate degree are eligible for dual undergraduate and graduate registration. Fifth-year undergraduate students (i.e., students pursuing a second undergraduate degree) are not eligible for dual undergraduate and graduate enrollment.*

## Inter-Institutional Registration

An inter-institutional registration program is available, for a limited number of undergraduate and graduate students, with the University of North Carolina at Greensboro, North Carolina State University, University of North Carolina at Chapel Hill, Duke University, and North Carolina Central University. The registration process is initiated in the Office of the Registrar and requires, via an Interinstitutional Approval form, the approval of the student's college dean and the Graduate School (graduate students only). Students should consult with their advisor to ensure that the credit earned through inter-institutional registration will allow progress toward degree and compliance with all baccalaureate degree requirements.

## Greater Charlotte Consortium

The Greater Charlotte Consortium is a partnership between UNC Charlotte and twelve other campuses: Belmont Abbey College; Central Piedmont Community College; Davidson College; Gaston College; Johnson & Wales University - Charlotte Campus; Johnson C. Smith University; Livingstone College; Pfeiffer University; Queens University of Charlotte; Rowan Cabarrus Community College; South Piedmont Community College; Wingate University; Winthrop University; and York Technical College. This partnership is available to undergraduate students and allows registration and enrollment in courses not offered at UNC Charlotte, so that students remain on track to graduation. Students must maintain full-time enrollment status and have no financial holds to enroll. UNC Charlotte students who enroll in a course through the Greater Charlotte Consortium are billed by UNC Charlotte. An application and additional information including program eligibility can be found at greatercharlotteconsortium.org. Students should consult with their advisor to ensure that the credit earned through the Greater Charlotte Consortium will allow progress toward degree and compliance with all baccalaureate degree requirements.

# Termination of Enrollment

## Termination by the Student

Prior to the end of the Add/Drop Period, students may terminate enrollment in one or more courses by dropping them in accordance with the Registration policy. After the end of the Add/Drop Period, students may terminate enrollment in one or more courses by withdrawing from them in accordance with the Withdrawal and Cancellation of Enrollment policy.

## Withdrawal and Cancellation of Enrollment Policy

Students are expected to complete all courses for which they are registered at the close of the Add/Drop Period. These courses will appear on the transcript, count as attempted hours, and except for withdrawals allowed under this policy, receive grades used in the GPA calculation. All types of termination, including withdrawal, withdrawal for extenuating circumstances, and Cancellation of Enrollment are subject to all financial aid and satisfactory academic progress rules.

### Withdrawals (Without Extenuating Circumstances)

Students are allowed opportunities to withdraw from classes and receive a grade of W, subject to the following conditions:

#### Deadline

The deadline to withdraw from one or more courses (including withdrawal from all courses) is at the 60% completion point of the term. The precise date for each term will be published in the Academic Calendar. After this deadline, late withdrawal will only be allowed for approved extenuating circumstances.

#### Grade of W

A grade of W will be recorded for each withdrawal without extenuating circumstances. Courses marked W do not count in GPA calculations, but do count in attempted hour calculations for all undergraduate and graduate students.

#### W-Limit Hours *(Undergraduate Students Only)*

Undergraduate students may receive a grade of W for no more than 16 credit hours over the course of their Academic Careers. Students may only withdraw from a course if they have enough remaining "W-Limit Hours," as shown in the following examples:

- A student has already received W grades for 14 credit hours and thus has only 2 W-Limit Hours left. The student may not withdraw from a 3-credit course, but could withdraw from a 1- or 2-credit course.
- Another student has 12 remaining W-Limit Hours and is currently taking five 3-credit courses. The student would like to withdraw from all courses but lacks approved extenuating circumstances, and thus must choose at least one course in which to stay enrolled.

Students who are unable to withdraw from a course but stop attending the course will be assigned a grade by the instructor for partial work.

### Withdrawal for Extenuating Circumstances

Students who experience serious extenuating circumstances (personal or medical crisis or military deployment) may request a withdrawal for extenuating circumstances. The Dean of Students Office is responsible for developing and communicating standards and procedures in conjunction with the Colleges that govern these decisions (see UNC Charlotte Academic Procedure: Cancellation of Enrollment and Effects of Withdrawal from Courses). The student must submit the request during the term the crisis begins. If approved, a grade of WE will be recorded for each course. Courses marked WE do not count in GPA calculations, but do count in attempted hour calculations. If not approved, the student may appeal to the appropriate office (see UNC Charlotte Academic Procedure: Cancellation of Enrollment and Effects of Withdrawal from Courses online at provost.charlotte.edu/policies/withdrawal-procedure).

***Undergraduate Students Only:*** Undergraduate students who withdraw under approved extenuating circumstances will receive "WE" grades that do not count against their 16-hour limit.

### Cancellation of Enrollment

A Cancellation of Enrollment results in removal of all enrollments from all courses for the term. Under Cancellation of Enrollment, courses do not appear on the transcript, count as attempted hours, or receive grades used in the GPA calculation.

Cancellation of Enrollment may occur at the approved request of a student, or through the removal of a student by the University for reasons that include but are not limited to: academic ineligibility, failure to pay tuition and fees, student conduct sanctions, documented emergency, or military deployment. A student may also choose to cancel their own enrollment prior to the first day of classes in accordance with UNC Charlotte Academic Procedure: Cancellation of Enrollment and Effects of Withdrawal from Courses.

### More Information

For more information about withdrawing at UNC Charlotte, visit the Withdrawal Services website at withdrawal.charlotte.edu.

### Termination by the University

The University maintains the right to terminate a student's enrollment in a course for a variety of reasons including, but not limited to: course schedule changes, course cancellation due to low enrollment, or the student's nonfulfillment of course prerequisites. The University maintains the right to terminate a student's enrollment in all courses in a term for a variety of reasons including, but not limited to: academic suspension, suspension for violation of the Code of Student Responsibility, or suspension in violation of the Code of Student Academic Integrity. Students who have been suspended for academic or disciplinary reasons must apply for readmission as described in the Readmission of Former Students policy.

# Course Attendance and Participation

Instructors determine their course policies (including attendance and participation) as long as such policies do not conflict with University policies. Such policies should be pedagogically appropriate. In general, students are expected to attend all scheduled sessions in the courses for which they are registered, participate fully in the learning process, demonstrate respectful behavior while interacting with instructors and peers, and complete all of the course requirements. Instructors may outline additional and more specific standards in the course syllabus, especially when attendance and/or participation are part of the grading criteria for the course.

### University-Sanctioned Activities

University-sanctioned events or activities are considered excused absences. A University-sanctioned event or activity is one in which a student formally represents the University to external constituencies in athletic or academic activities. This policy does not supersede individual program attendance and/or participation requirements that are aligned with accreditation or licensure.

### Student Responsibilities

1) Notification
   a) A student must inform the instructor of any absence as soon as possible. For any excused absence, a student must inform the instructor no later than the last day of the add/drop period, except when newly added or unforeseen circumstances occur (e.g., a playoff event).
   b) Notification/Documentation of planned excused absences must be made in writing and delivered by the student electronically or in a face-to-face meeting with the instructor of each class that the student is requesting an excused absence.
2) Student experiences that cannot be made up should be discussed with the instructor at the onset of the course to ensure that continued enrollment is feasible while the opportunity to drop the class exists.
3) Students are responsible for fulfilling any course requirements that occur during the time they are absent from class.
4) Students are expected to maintain satisfactory progress in the

course.

## Instructor Responsibilities

1) Instructors should utilize best practices with regards to course attendance and participation including but not limited to:
    a) Prioritizing active participation in and engagement with the educational process over course attendance as a measure of student involvement.
    b) Establish rules of engagement in the syllabus, clarify the course instruction format as in-person, online (synchronous or asynchronous), or a hybrid of in-person and online, and identify multiple ways in which students can demonstrate satisfactory participation. In hybrid or entirely online courses, for example, this could include camera usage, chat boxes, online forums, etc.
    c) If the course has a policy regarding a limited number of allowed absences, University-sanctioned activities should not count against that limit. In addition, students cannot be required to utilize a "drop" option for work missed afforded to all students due to a University-sanctioned event.
    d) If a student has a valid University-excused absence, they are entitled to make up missed work for full credit in whatever manner the instructor deems appropriate.
2) If student responsibilities are met, the instructor will honor valid University-excused absences that are not already included in other individual instructor excused absences policies.
3) The instructor may impose appropriate academic penalties if the student fails to satisfactorily complete the alternate assignment or examination within a reasonable timeframe.
4) Required activities outside of class hours that are used for graded participation must be stated in the syllabus. If the required activity falls on a specific date/time, the instructor must provide an alternative assignment, unless the activity is foundational to the course (e.g., a theater performance produced by the class). Such foundational class activities should be included in the course "Notes" in the Banner Schedule. If the activity is one that can be completed over the course of the term and is not limited to a specific date/time, no alternative assignment is required.
5) Additional absences from class may be excused by the instructor. Whenever possible, students are expected to seek the permission of the instructor prior to any absences. Examples of valid reasons for consideration of absences include:
    a) Documented illness
    b) Serious personal or family emergencies
    c) Court-imposed legal obligations such as subpoenas or jury duty
    d) Military obligations
    e) Academic and/or extracurricular activities
    f) Religious observances; absences for religious holidays fall under University Policy 409, Religious Accommodation for Students at legal.charlotte.edu/policies/up-409
    g) Documented quarantining for in-person classes
6) If students believe they have been penalized or unjustly treated because of participation in a University-authorized activity, they can appeal using the following sequence of appeal to (1) the instructor, (2) unit chairperson and (3) the appropriate college dean or designee (college offering the course). The decision of the dean is considered final.

# Grading

Instructors assign grades on the basis of their evaluation of the academic performance of each student enrolled in their courses. At the end of the term, the grades are reported to the Office of the Registrar which is responsible for maintaining student academic records and making grades available to students.

## Grades

Letters are used to designate the quality of student academic achievement.

| UNDERGRADUATE GRADES | | |
|---|---|---|
| **Letter** | **Meaning** | **Grade Points Per Credit Hour** |
| A | Excellent | 4 |
| B | Good | 3 |
| C | Fair | 2 |
| D | Passing | 1 |
| F | Failing | 0 |
| FX | Academic Honesty Violation | 0 |
| I | Incomplete | * |
| IP | In Progress | * |
| W | Withdrawal | * |
| WE | Withdrawal (Extenuating Circumstances) | * |
| AU | Auditing Class | * |
| NG | Temporary Unreported Grade | * |
| NR | No recognition given for Auditing Class | * |
| | **Cooperative Education** | |
| S | Satisfactory | * |
| U | Unsatisfactory | * |
| | **Pass/No Credit Option** | |
| P | Passing | * |
| N | No Credit | * |

**Not used in computation of grade point average*

### Grade of FX (Academic Dishonesty Violation)

For details on the use of the FX grade, please see University Policy 407, Code of Student Academic Integrity, Section IV, - Penalties at legal.charlotte.edu/policies/up-407#IV.

### Grade of I (Incomplete)

The grade of I is assigned at the discretion of the instructor when a student who is otherwise passing has not, due to circumstances beyond their control, completed all the work in the course. The missing work must be completed by the deadline specified by the instructor, and no later than 12 months. If the I is not removed during the specified time, a grade of F, U, or N, as appropriate is automatically assigned. The grade of I cannot be removed by enrolling again in the same course, and students

should not re-enroll in a course in which they have been assigned the grade of I.

### Grade of IP (In Progress)

The grade of IP is based on coursework for courses that extend over more than one semester. For example, a course that requires enrollment for two consecutive semesters would be eligible for an IP grade in the first term (i.e., Undergraduate Senior Project). A grade of IP should not be given for coursework to be completed in one given term. It cannot be substituted for a grade of I. The IP grade expires after six years, and if no final grade has been awarded by that time, the IP grade will default to a grade of N (no credit).

### Grade of W (Withdrawal) or WE (Withdrawal with Extenuating Circumstances)

No grade will be given for a course dropped on or before the last day to drop a course without record. After this period, students may only withdraw from a course in accordance with the conditions and deadlines in the Withdrawals policy. Students who withdraw without extenuating circumstances will receive a grade of W and are allowed no more than 16 credit hours of W grades over their academic careers. Students who withdraw under formally recognized extenuating circumstances will receive a grade of WE, indicating that the withdrawn hours do not count against the student's W-limit hours. Post-deadline withdrawal is only allowable for recognized extenuating circumstances. Unsatisfactory academic performance itself is not an extenuating circumstance. The grade of W or WE is posted on the academic transcript.

### Pass/No Credit Option

Every student will be permitted during their undergraduate years to select up to a total of four courses (at most one per academic year) in which they can receive an evaluation of P (pass) or N (no credit). This option is designed to encourage curiosity, exploration, and experimentation in areas where a student has strong interest but little or no previous experience. The Pass/No Credit option only applies to courses normally graded on an A-F scale, and it cannot be used on courses taken by a student for credit toward their major or minor or to satisfy University General Education requirements. *[Note: courses designated by the faculty to be graded on a Pass/No Credit basis may count for the major.]* To exercise this option, the student must declare their intention to take a Pass/No Credit option by completing an Academic Petition by the withdrawal deadline for the term. The deadline is available on the Academic Calendar. This petition requires the approval of the student's advisor, major department chair, and college associate dean. Courses completed with the grade of Pass will count toward the hours needed for graduation, but they will not be considered in the computation of the grade point average.

## Unsatisfactory Grade Reports

Unsatisfactory Grade Report notifications are sent via email to students in the middle of each semester for courses in which the student is performing below average and a grade has been reported. Students should also seek feedback from instructors. Unsatisfactory grades, if assigned, are available through the secure student access pages of My UNC Charlotte online at my.charlotte.edu. If not assigned, they are not visible via this medium.

## Final Grades

Final grades are available through the secure student access pages of My UNC Charlotte online at my.charlotte.edu.

### Final Grade Changes and Appeals from Final Course Grades

When a final course grade other than Incomplete (I) is officially reported by the instructor at the end of an academic term, the grade is recorded by the Office of the Registrar and can be changed only if the grade has been assigned arbitrarily or impermissibly as defined in University Policy 410, Policy and Procedures for Student Appeals of Final Course Grades, available online at legal.charlotte.edu/policies/up-410.

Students should follow the procedures outlined in the policy if they believe that the final course grade that has been assigned is incorrect. The policy requires the student to discuss the grade with the instructor as soon as possible after the grade is received. Students should note, however, that the University is not obliged to respond to a grade appeal unless the student files it with the appropriate department chairperson or interdisciplinary program director within the first four weeks following the last day of the regular semester or the summer term in which the grade was received. When a grade is assigned consistently with University policy, only the instructor has the right to change the grade except as provided in the Incomplete grade policy. When an instructor reports a grade change for a grade other than I, the online "Change of Grade" form must be approved by their department chair and college dean, or the assigned designee of the department chair and/or college dean.

## Repeating Courses

A student may receive credit for a course one time only, unless the course description specifies that it "may be repeated for credit." However, subject to College or program restrictions, students can repeat a previously completed course to earn a higher grade. A student seeking to repeat a course for which they have already earned credit (earned a passing grade) must receive a Repeat Course Override. A Repeat Course Override requires approval of the student's advisor, department chair, and dean.

Grade Replacement will automatically be applied for the first two courses (maximum of 8 credit hours) repeated where the previous grade earned was a C or below. Under Grade Replacement, both grades earned for the course will be reflected on the transcript. However, only the higher of the two grades for the course will be used in GPA calculations. For any course repeated without Grade Replacement, the most recent grade earned will be used for prerequisite purposes and ALL GRADES earned for the course will be reflected on the transcript and will be used in overall GPA calculations.

Grade Replacement will not be applied to:

- Any course repeated where the previous grade was earned prior to Fall 2007
- Any course other than the first two courses repeated where the previous grade earned was a C or below
- Courses that may be repeated for credit, except for special topics courses where the student is enrolled in the same topic for which they originally received the grade to be replaced

- Courses for which the initial grade was received owing to an admitted or adjudicated academic dishonesty violation *(this exception is not subject to appeal or academic petition)*

For Grade Replacement to apply, the course to be repeated and the repeat course must have their grades assigned by UNC Charlotte. Grade Replacement will not be processed after a student graduates.

When the course being repeated is a course with an associated lab, the lecture and lab must be repeated concurrently to only consume one of the two allowable grade replacements.

If a student is repeating a course where Grade Replacement would have applied and the student withdraws from the course or from the University, the previous final course grade will be the grade of record for the course and not a W. Any such withdrawal still consumes one of the two grade replacements permitted under this policy. However, a course that is dropped before the end of the Add/Drop period or a course for which the student receives a WE (withdrawal with extenuating circumstances) does not consume one of the allotted replacements.

Students will be notified after the last day to add or drop a course for the term or half-term about any grade replacements in effect for that term or half-term. Students wishing to opt out of using a grade replacement must comply as instructed by the Office of the Registrar and by the withdrawal deadline for the term or half-term. They must similarly comply with the instructions provided and by the withdrawal deadline if they wish to apply grade replacement to a different course being repeated during the same term.

*Note: Since credit hours can be awarded only once for a course, repeated courses can affect athletic eligibility, academic standing, veteran's benefits, and financial aid status.*

## Credit Hours

Credit hours are the number of hours a course is allocated. The majority of undergraduate courses have three (3) credit hours, while labs and other courses may have one, two, four, or more credit hours. Attempted, passed, and earned credit hours are reported on transcripts.

## Quality Points

Quality points, also known as grade points, are determined by multiplying the number of points assigned to each grade (A = 4, B = 3, C = 2, D = 1, F = 0) by the number of credit hours associated with that course. Refer to the example below.

## GPA Hours

GPA hours, also known as quality hours, are the total number of credit hours in the graded courses the student has attempted, except for those for which a grade of I, IP, W, P, AU, or N is recorded. Refer to the example below.

## Grade Point Average (GPA)

The grade point average for an undergraduate student is determined by adding all accumulated quality points together, and then dividing by the total number of GPA hours the student has attempted, excluding those for which the student received a grade of I, IP, W, P, AU, or N. In computing the grade point average, only those credits attempted at UNC Charlotte are included. Refer to the example below.

**Example of Transcript:**

| Subject | Course | Grade | Credit Hours | Quality Points |
|---|---|---|---|---|
| AMST | 2050 | P | 3.00 | 0.00 |
| CHEM | 1251 | F | 3.00 | 0.00 |
| CHEM | 1251L | F | 1.00 | 0.00 |
| ENGR | 1201 | C | 2.00 | 4.00 |
| LBST | 2101 | C | 3.00 | 6.00 |
| MATH | 1241 | C | 3.00 | 6.00 |
| WRDS | 1101 | B | 3.00 | 9.00 |

**Term Totals (Undergraduate)**

| | Attempt Hours | Passed Hours | Earned Hours | GPA Hours | Quality Points | GPA |
|---|---|---|---|---|---|---|
| Current Term | 18.00 | 14.00 | 14.00 | 15.00 | 25.00 | 1.66 |
| Cumulative | 18.00 | 14.00 | 14.00 | 15.00 | 25.00 | 1.66 |

**Example of GPA Calculation**:
GPA = Quality Points/GPA Hours; 25/15=1.66

## Grade Point Average Calculator

To calculate grade point averages, visit ninercentral.charlotte.edu/grades-transcripts-graduation/gpa-calculator.

# Academic Standing

This policy statement applies only to undergraduates: "student" should be read as "undergraduate student" throughout. Newly admitted students begin in good academic standing. Each student's academic standing is evaluated at the end of every Fall or Spring semester for which the student was enrolled, based on hours attempted at UNC Charlotte only. The possible results of this evaluation are described below:

## Academic Standing

A student will have one of the following types of academic standing:

### Academic Standing

To remain in good academic standing, a student must maintain: (1) a cumulative grade point average (GPA) of at least 2.0 and (2) a cumulative ratio of earned to attempted credit hours of at least two-thirds.

### Academic Standing Warning

A student who meets the cumulative requirements for good academic standing but performs below a 2.0 GPA in the semester of the evaluation or performs below the two-thirds cumulative ratio of earned to attempted hours is given an "academic standing warning." This indicates potential academic problems and is communicated to the student and to the student's advisor and major department(s). Academic standing warnings do not appear on the student's permanent academic record, and the transcript notation will reflect "good academic standing."

### Academic Probation

A student whose cumulative GPA is below 2.0 is placed on academic probation. This status is noted on the student's permanent academic record with the semester of the evaluation and continues until the next evaluation opportunity.

### Academic Suspension

A student on academic probation whose cumulative GPA remains below 2.0 at the next evaluation is suspended from the University, unless the student's GPA for that semester is at least 2.3, in which case the student remains on probation instead. Academic suspension is noted on the student's permanent academic record.

### Exception for Summer Enrollment

Students who are on academic suspension are permitted to enroll in Summer Term classes, but they are not eligible to enroll for Fall or Spring semesters until they have applied and been approved for reinstatement or readmission.

## Academic Distinctions

### Chancellor's List

The Chancellor's List recognizes undergraduate degree-seeking students with superb records of academic performance. To qualify for the Chancellor's List during the Fall or Spring semester, a full-time student must be in good academic standing and earn a grade point average of at least 3.8 in 12 or more credit hours graded A, B, or C, with no grade less than C. A part-time student must be in good academic standing and earn a combined fall and spring grade point average of at least 3.8 in 12 or more credit hours graded A, B, or C, with no grade less than C. To qualify for the Chancellor's List as a part-time student, a student must enroll on a part-time basis in both fall and spring semesters in the same academic year.

Students who receive the grade of AU or P are not excluded from recognition as long as 12 credit hours are completed with A, B, or C. Students who receive the grade of D, F, I, NR, or N are not eligible for recognition. Chancellor's List recognition appears on the student's academic record (official transcript).

### Dean's List

The Dean's List recognizes undergraduate degree-seeking students with outstanding records of academic performance. To qualify for the Dean's List during the Fall or Spring semester, a full-time student must be in good academic standing and earn a grade point average of at least 3.4 and not more than 3.79 in 12 or more credit hours graded A, B, or C, with no grade less than a C. A part-time student must be in good academic standing and earn a combined Fall and Spring grade point average of at least 3.4 and not more than 3.79 in 12 or more credit hours graded A, B, or C, with no grade less than C. To qualify for the Dean's List as a part-time student, a student must enroll on a part-time basis in both Fall and Spring semester in the same academic year.

Students who receive the grade of AU or P are not excluded from recognition as long as 12 hours are completed with grades of A, B, or C. Students who receive the grade of D, F, I, NR, or N are not eligible for recognition. Dean's List recognition appears on the student's academic record (official transcript).

### Graduation with Distinction

Students may earn undergraduate degrees at different levels of distinction: Cum Laude ("With Honor"), Magna Cum Laude ("With Great Honor"), and Summa Cum Laude ("With Highest Honor"). Each of the undergraduate degrees is awarded Cum Laude when the graduating student's cumulative GPA is 3.4 or more but less than 3.7, Magna Cum Laude when it is at least 3.7 but less than 3.9, and Summa Cum Laude when it is at least 3.9. To be eligible to graduate with distinction, a student must be in good academic standing and have a grade point average computed on at least 48 credit hours completed in residence at UNC Charlotte. Students who have fewer than 48 credit hours completed in residence at UNC Charlotte may petition the Office of the Provost to receive graduation with distinction. Students enrolled in a degree completion program at UNC Charlotte for which there are less than 48 credit hours required for the major are exempt from this credit hour requirement and are not required to file a petition.

# Readmission of Former Students

The following individuals must make application for readmission to the University prior to the semester or summer term for which registration is sought: a former student who has graduated, a former student who has been suspended for academic or disciplinary reasons, and a student who has not been enrolled for 12 consecutive months after the semester last attended at UNC Charlotte. (Example of the latter: last enrolled Fall semester 2023; not enrolled Spring or Fall 2024; to enroll in Spring 2025, students must apply in Fall 2024.) Readmission is not automatic; students applying for readmission must meet the requirements of the major in which they wish to return. as well as complying with all University policies regarding readmission. Application should be submitted online at welcomebackniner.charlotte.edu in accordance with the published dates. Official transcripts from any institution attended during the student's absence from the University must be submitted prior to enrollment.

### Forgiveness Policy

Undergraduate students who have a break in enrollment from UNC Charlotte for a minimum period of 24 consecutive months or undergraduate students who have a break in enrollment from UNC Charlotte for a minimum of one regular semester and earn an Associate of Arts (AA), an Associate of Science (AS), an Associate of Fine Arts (AFA), or an Associate of Engineering (AE) degree are eligible for readmission with forgiveness. Students may be readmitted one time only under this policy.

The Forgiveness Policy will be applied automatically upon readmission if the student is eligible. Students electing not to apply the Forgiveness Policy may request to waive the policy in its entirety at the time of readmission only.

If a student is readmitted with forgiveness, only those courses for which the student has received a grade of C or above (or H or P) can be used for academic credit. Readmission under the forgiveness policy also resets the student's W-limit hours (see *Withdrawals Policy* under the "Termination of Enrollment" heading in this section) to the full 16 hours. The GPA will be based only on the courses that return with the student and the courses taken after readmission. Eligibility for continued enrollment is determined as in the case of transfer students. To qualify for graduation with honors, a readmitted student must have a GPA computed on at least 48 hours taken in residence on which the UNC Charlotte GPA is based.

### Second Baccalaureate Major/ Baccalaureate Minor

Students who have earned a bachelor's degree from UNC Charlotte may apply for readmission into a program leading to a second major, minor, or second degree (see the "Declaring Undergraduate Majors and Minors" heading in this section). Students readmitted for a second degree are not eligible for application of the forgiveness policy toward the first degree.

# Academic Appeal and Grievance Procedures

Academic appeals and grievances are generally addressed by the college where the appeal or grievance arises or, if no particular college is appropriate, by the Office of the Registrar. Undergraduate students may appeal an academic suspension by submitting a written statement online at appeals.charlotte.edu.

Decisions regarding suspension appeals are made by the chair of the academic unit in which the student is enrolled or the dean of University College if the student's major is undeclared. For all other academic appeals, including recommendations of approval, undergraduate students must complete an Academic Petition online at academicpetition.charlotte.edu.

For additional information on student grievances, see University Policy 411, "Student Grievance Procedure," online at http://legal.charlotte.edu/policies/up-411.

# Transfer Credit and Credit for Prior Learning

Evaluation of college transfer credits is coordinated through the Office of the Registrar. Prospective students who desire further information about policies and procedures for awarding credit may should contact the respective office mentioned above or utilize the "Transfer Credit Advisor" tool online at admissions.charlotte.edu.

### Types of Transfer and Prior Learning Credits

#### Standardized Exams

Students who have completed standardized tests should send their test scores to the Office of Admissions, which will evaluate the results and determine if they qualify for credit. Prospective students seeking more information about credit policies and procedures should visit https://admissions.charlotte.edu/resources/credit-for-prior-learning/ to review score requirements and other details.

#### Certification/Licensure

Students can earn academic course credit for professional certifications and licenses. Certifications, licenses, and related coursework completed with a non-collegiate training organization may be granted credit if they are recognized by the American Council on Education (ACE); see ACE's National Guide. Approved credits may be applied toward general education, major, or elective requirements, after the University reviews them to ensure the credits fit the student's degree program.

#### Industry or Corporate Experience, Including Professional Development

In addition to recognizing credit recommendations for prior learning from the American Council on Education (ACE), UNC Charlotte has an internal review process for evaluating and awarding credit for professional or other external training programs not recognized by ACE. These programs may include corporate, or industry-sponsored training that demonstrates college-level learning outcomes. Academic credit for professional development completed with a non-ACE provider will undergo a review by the College, department, or program awarding credit and there may be time limits depending on the discipline.

#### Credit by Examination (also known as a challenge exam)

A currently enrolled UNC Charlotte student may earn credit for a university course, without completing the regular coursework, by passing a department-approved challenge examination. Not all courses are eligible for credit by examination; the availability of a challenge exam is determined by the academic department that offers the course. If the challenge exam is approved, the student must pay the required fee and bring the payment receipt to the exam. Credit earned by examination will appear on the transcript as hours earned, but no grade points will be assigned. The hours attempted will equal the hours earned. No partial credit is awarded. If the student fails the exam, no grade points or hours attempted will be recorded. Students cannot receive credit by

examination for any course they have already received a passing or failing grade at UNC Charlotte.

### Portfolio

A portfolio is a compilation of documents compiled by the student and submitted to a faculty evaluator to demonstrate college-level learning the student has already earned through prior work or life experience. Portfolio requirements and acceptance vary by discipline and the course for which a student wants credit. To receive credit, students must demonstrate that they have achieved the learning outcomes of the course for which they are requesting credit. Required documentation for a portfolio may include training certificates from completed professional development or workplace programs, letters of recommendation verifying prior work or life experience, and work samples documenting prior learning. The portfolio is approved by the College, department, or academic program.

### Military Education and Training

UNC Charlotte grants credit for military training equivalent to courses in a student's major, minor, or general education requirements. The Office of the Registrar makes the initial equivalency determination; the relevant academic department can then review and make final adjustments, if needed. Students are required to provide documentation, such as a Joint Services Transcript. Contact the Office of the Registrar for details.

### Transfer Credit from Other Institutions

Official domestic transcripts are evaluated in the Office of the Registrar, while official international transcripts are evaluated in the Office of Undergraduate Admissions. After that initial evaluation, the relevant department chairperson or program director makes the final decision on any credit applicability to the student's major or program requirements. The general rules governing transfer credit are:

1. Only courses taken at a college or university accredited by an accepted accrediting body will be considered for transfer credit.
2. Courses for which credit is accepted must be appropriate for approved University programs and curricula in which the student is enrolled.
3. No credit below C level will be accepted; grade points and averages do not transfer.
4. Transfer credit is awarded only upon receipt of an official transcript from the institution where the credit was earned.
5. Equivalent credit is determined based on the American Association of Collegiate Registrars & Admissions Officers (AACRAO) recommendation and UNC System Regulation 400.1.5.3 [R] IV.C.1, that 70% of the content considered for equivalency should match UNC Charlotte course requirements.
6. Every effort is made to minimize equating to elective credit, but this may be necessary when content does not match at 70% or there is no equivalent course at UNC Charlotte.
7. The University accepts a maximum of 64 credit hours from two-year institutions for undergraduate students. Remedial courses will not transfer.

Students who hold a baccalaureate degree from a college or university accredited by an accepted accrediting body will not be required to satisfy the UNC Charlotte General Education Requirements when pursuing a second degree. Students will have their credit from their first degree evaluated to determine how it applies towards their second degree.

### Transient Study

Courses taken by UNC Charlotte undergraduate degree students at another college or university accredited by an accepted accrediting body may be transferred to the University subject to the following regulations:

1. The University is not obligated to accept any credit from another institution unless the student has obtained the prior approval of the dean of the college in which he/she is enrolled. A Permit for Transient Study petition should be completed and filed with the UNC Charlotte Office of the Registrar prior to enrollment at another institution.
2. No credit will be accepted for courses below C level for undergraduate students.
3. Upon completion of the course(s), the student must request that the other institution send an official transcript to the UNC Charlotte Office of the Registrar.

Transfer grades do not affect the students' UNC Charlotte GPA.

## Transfer Credit Processes, Procedures and Exemptions

### Transfer Credit Evaluation and Timelines

UNC Charlotte will review transfer credits and notify students of the results – including what did or did not transfer and how to appeal – in alignment with the evaluation timelines established by UNC System Regulation 400.1.5.3[R].

- For most students transfer credit evaluations will be completed within 15 business days of admission and receiving all required official transcripts.
- For students who have international transfer credit or attended more than four prior institutions, the evaluation period will not exceed 30 business days following admission and receipt of all required official transcripts.
- All final transfer credit evaluations (reflecting coursework from all official transcripts received by UNC Charlotte) will be completed no later than 24 hours prior to the registration deadline of the students' first term.
- UNC Charlotte will provide timely notification to transfer students of their transcript evaluation for those students who apply and are admitted within 15 business days of the registration deadline of their first term, with the understanding that it may not be possible to complete the full evaluation by the registration deadline.

### Transfer Credit Adjustment Appeals

Students who wish to appeal the results of their transfer credit evaluation should first submit a transfer credit adjustment petition in consultation with their academic advisor at: https://academicpetition.charlotte.edu.

If the petition is denied, students transferring from a North Carolina community college may then submit an appeal through the UNC System's Transfer Student and Credit Appeal Portal at https://transferappeal.northcarolina.edu, as long as the course or waiver in question is covered under the Comprehensive Articulation Agreement (CAA) – the statewide agreement that governs the transfer of credits between North Carolina community colleges and UNC System universities.

### Transfer Guides

Transfer Guides help North Carolina community college students plan for transfer to UNC Charlotte by outlining community college courses that are aligned with specific University majors. Published annually by the UNC System Office, these guides support associate degree completion, transfer admission, and timely bachelor's degree progress and completion. Students are protected under the Comprehensive Articulation Agreement (CAA), the statewide agreement that governs the transfer of credits between North Carolina community colleges and UNC System universities. That protection applies to the Transfer Guide in effect when they first enrolled at the community college, provided they earn the associate degree and transfer to UNC Charlotte within four years of their initial community college enrollment. The University Transfer Center reviews and updates Transfer Guides annually, between January 15 and May 15, in order for new versions to go into effect for the fall semester of that same calendar year; it is also responsible for submitting revised Transfer Guides to the UNC System Office.

Every effort is made to ensure that University curriculum changes that take place during the four-year enrollment timeline outlined in the CAA do not disadvantage or negatively impact the transfer and applicability of credits toward degree completion upon enrollment; departments must work with students who are negatively affected by any curriculum changes to mitigate any of these effects. If students have questions about how a course from a Transfer Guide is being applied, they should consult their academic advisor. Students may also submit a transfer credit adjustment petition (see Transfer Credit Appeals above).

## Exemptions to General Education Requirements

### First-Year Writing Requirements

Students will be deemed to have fulfilled the First-Year writing requirement (WRDS 1103 or WRDS 1104) if either of the following apply: a) they were exempted from first-year writing (without credit) at another college or university; or b) they are transferring 64 or more credit hours from U.S. institution(s) of higher education. (Some exceptions may apply for students with transferred credit hours from institutions where English is not the language of instruction.)

### Foundations of American Democracy

Students will be deemed to have fulfilled the Foundations of American Democracy requirement if either of the following apply: a) they have satisfied this requirement at another UNC system institution; or b) they receive applicable transfer credit; or c) they have 60 or more transferred credit hours from U.S. institution(s) of higher education. (Some exceptions may apply for students with transferred credit hours from institutions where English is not the language of instruction.)

### General Education Requirements

Some students are waived from General Education requirements if they are admitted to the University in Fall 2003 or thereafter. These include:

- Students who receive an Associate of Arts (AA), Associate of Science (AS), Associate of Fine Arts (AFA), or Associate of Engineering (AE) degree from North Carolina Community Colleges.
- Students who graduate from a North Carolina Community College with an Associate of Applied Science (AAS) and enroll at UNC Charlotte in an approved AAS degree completion program that includes a general education exemption.
- UNC System transfer students who have completed General Education requirements at another UNC institution.

Some transfer students are eligible for reduced General Education requirements if they are admitted to the University in Fall 2026 or thereafter. These include:

- Students from North Carolina Community Colleges who earn an Associate of Applied Science degree

Transfer Students from out-of-state and private institutions of higher education who receive an associate degree from that institution will have the degree evaluated for the same General Education exemption on a case-by-case basis by the Office of the Registrar. The criteria used in the evaluation will be the amount of college-level coursework in English, math, natural science, social science, and humanities that is included in the degree's curriculum. Subjects that are highly technical or do not match the UNC Charlotte General Education core may not be approved for an exemption from lower-division General Education requirements; however, individual courses will be accepted toward the UNC Charlotte requirements.

## Critical Thinking and Communication (CTC) Requirement

See the General Education Program for details on transfer credit and the CTC requirement.

## Reverse Credit Transfer

North Carolina's Reverse Credit Transfer Program is designed to award an associate degree to students who previously attended a North Carolina Community College (NCCC) and fulfilled the associate degree requirements while working towards a bachelor's degree at a University of North Carolina institution. This program is a state initiative in which a student can combine credit previously earned at a NCCC with credit they have earned at participating four-year universities to apply for an Associate's Degree from the NCCC they attended initially.

If a student is awarded the Associate in Arts, Associate in Science, Associate in Fine Arts, or Associate in Engineering degree through the Reverse Credit Transfer program, UNC Charlotte will honor the degree to satisfy lower-division General Education requirements. It is the student's responsibility to understand their own community college requirements for completing an Associate in Arts, Associate in Science, Associate in Fine Arts, or Associate in Engineering degree. For more details, see the Academic Policy and Procedure online at provost.charlotte.edu/policies/reverse-transfer.

# Graduation

graduation.charlotte.edu

## Application for the Degree

Each student must make an application for their degree no later than the filing date specified in the academic calendar online at registrar.charlotte.edu/calendar-schedules. The application may be submitted online through the Office of the Registrar at my.charlotte.edu. The diploma and transcript will reflect the term in which all requirements were completed, and the diploma will be mailed to the student's address of record.

## Commencement Ceremonies

Students must have completed or be on track to complete their degree requirements for the term they plan to participate in the commencement ceremony. Undergraduate students who wish to attend commencement must attend the ceremony within their college. Graduate students (including certificates) who wish to attend commencement must attend the Graduate School ceremony. All students must have a valid UNC Charlotte ID or a government issued photo ID and their UNC Charlotte ID number to participate in commencement.

Students completing their degree requirements in May participate in the May ceremony. Students completing degrees in a summer term participate in the August ceremony. Students completing degrees in December participate in the December ceremony.

## Teacher Licensure

Students who have completed degree requirements and obtained passing scores on appropriate exit tests (e.g., Principles of Teaching and Learning, Praxis II Subject Assessments) must apply for licensure through the Teacher Education Advising and Licensure (TEAL) Office in the College of Education. TEAL will process and submit application packets including Praxis scores, final transcripts, and required fees to the North Carolina Department of Public Instruction (NCDPI). Licenses are mailed directly to applicants by NCDPI.

## Commencement Marshals

At each Commencement ceremony, the University honors the juniors with the highest grade point averages by inviting them to serve as the marshals who lead the processions of graduates, faculty members, and the platform party. To select students for this honor, the University considers juniors who have completed 75 credit hours of degree work, enrolled full-time (12 or more credit hours per semester) during the two most recent semesters, and are able to attend the ceremony.

# Academic Records and Transcripts

The Office of the Registrar is responsible for maintaining the official academic records for all students. Upon request by a student through Banner Self-Service, an official transcript of their academic record will be issued to the person or institution designated, provided that all the student's obligations to the University have been settled satisfactorily. For active students, transcripts can be ordered by logging in to my.charlotte.edu and selecting Banner Self Service. For former students who have been away for more than 12 months, transcripts can be ordered through the University's transcript provider, Parchment Exchange, at parchment.com/u/registration/39530834/institution. A one-time account creation will be required for inactive students.

# Family Educational Rights and Privacy Act (FERPA) Annual Notification

**A full explanation of FERPA rights and responsibilities at UNC Charlotte is found in the complete text of University Policy 402, Student Education Records (FERPA) at legal.charlotte.edu/policies/up-402, as that policy may be modified from time to time.**

## I. RIGHTS

In establishing University Policy 402, Student Education Records, UNC Charlotte adheres to a policy of compliance with the Family Educational Rights and Privacy Act of 1974, also known as FERPA, a federal law that affords students the following rights with respect to their education records:

**A.** To inspect and review the student's education records:

Students should submit to the Office of the Registrar, dean of their college, chair of their major academic department, or other appropriate official written requests that identify the record(s) they wish to inspect. The appropriate University official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the University official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.

**B.** To consent to disclosure of the student's education records to third parties, except to the extent that FERPA authorizes disclosure without consent, as follows:

**1. Directory Information**. Directory Information (as defined in Section I of University Policy 402), including the student's name, major field of study, dates of attendance, enrollment status, and degrees and awards (including scholarships and distinctions) received; and county of residence for award, scholarship, or distinction recipients may appear in public documents and may otherwise be disclosed without student consent unless a student submits a request form to the Registrar to withhold such information from disclosure. A request for non-disclosure will be honored by the University indefinitely, unless the student submits to the Registrar a written revocation of such request for non-disclosure.

**2. University Officials**. University officials with legitimate educational interests in the student's education records are allowed access to student education records. A "legitimate educational interest" is defined as an interest that is essential to the general process of higher education, including teaching, research, public service, academic advising, general counseling, discipline, job placement, financial assistance, medical services, and academic assistance activities. University officials who may have access to only those education records in which they have legitimate educational interests include, but are not limited to, personnel in the following offices:

- Undergraduate Admissions
- Graduate Admissions
- Office of the University Registrar
- Office of Undergraduate Education
- Financial Aid
- Financial Services
- Auxiliary Services
- Student Employment Office
- University Center for Academic Excellence
- Career Center
- Counseling Center
- Office of Adult Students and Extended Services (OASES)
- Disability Services
- OneIT - for technical support associated with maintaining student education records only
- Internal Audit
- Office of Enrollment Management
- Office of Director of Athletics
- Office of Vice Chancellor for Student Affairs
- Office of Vice Chancellor for Business Affairs
- Office of Dean of Students
- Office of Dean of Graduate School
- Office of International Programs (Charlotte Global)
- Offices of Chairpersons of Departments
- Offices of Deans of Colleges
- Offices of Directors of Interdisciplinary Units
- Office of Provost
- Office of Chancellor
- Office of Civil Rights & Title IX
- Office of Legal Affairs
- Campus Police, for internal law enforcement or health and safety purposes only
- University Advancement
- Teaching and Learning Connection
- Academic counselors and advisors
- Campus Behavioral Intervention Team
- Office of Institutional Research
- Faculty members
- Other academic and administrative personnel, as approved by the Chancellor

**3. Parents of Dependents**. Parents of a student who is a dependent for federal tax purposes, as defined by Section 152 of the Internal Revenue Code of 1954, may have access to that student's education records without prior consent of the student. Parents may demonstrate the tax dependency of a student only by submitting to the University a copy of the first and signature pages of their most recently filed federal income tax return (with personal financial data removed). Alternatively, a student may demonstrate tax dependency, and thus allow parental access to the student's records without prior consent of the student, by submitting to the University a signed statement of their tax dependency. If a dependent student's parents are divorced, both parents may have access to the student's records, so long as at least one parent claims the student as a dependent.

**4. Other Institutions**. The University may release a student's education records to officials of another school, school system, or institution of postsecondary education where the student seeks or intends to enroll, or where the student is already enrolled, so long as the disclosure is for purposes related to the student's enrollment or transfer.

**5. Financial Aid**. The University may release a student's education records to persons or organizations in connection with that student's application for, or receipt of, financial aid, but only to the extent necessary for such purposes as determining eligibility, amount, conditions, and enforcement of terms or conditions of such financial aid.

**6. Accreditation Agencies**. The University may release students' education records to accreditation organizations or agencies for purposes necessary to carry out their accreditation functions.

**7. Judicial Orders**. Information concerning a student shall be released in response to a judicial order or lawfully issued subpoena, subject to the conditions set forth in 34 CFR § 99.31(a)(9). The University will make reasonable efforts to notify the student of a subpoena before complying with it, except that the University shall not notify a student of a subpoena if it is from a federal grand jury or is for law enforcement purposes, and it provides that the University shall not disclose to any person the existence or contents of the subpoena or any information furnished in response to the subpoena.

**8. Litigation**. If the University initiates legal action against a parent or student, or if a parent or student initiates legal action against the University, the University may disclose to the court, without a court order or subpoena, the education records of the student that are

relevant for the University to proceed with the legal action as plaintiff or to defend itself in such legal action.

**9. Health and Safety**. The University may, subject to the conditions set forth in 34 CFR § 99.36, disclose student information to appropriate persons, including parents of a student, in connection with an emergency if knowledge of the information is necessary to protect the health or safety of the student or other individuals.

**10. Student Conduct Hearing Results**.

**a. Disclosure to Victims**: The University may disclose to an alleged victim of any crime of violence (as that term is defined in Chapter 1, Section 16 of Title 18, United States Code), or a non-forcible sex offense, the final results of any student conduct proceeding conducted by the University against the alleged perpetrator of such crime or offense with respect to such crime or offense, regardless of whether the alleged perpetrator was found responsible for violating the University's rules or policies with respect to such crime or offense.

**b. Disclosure to Third Parties**: The University may disclose the final results of any student conduct proceeding against a student who is an alleged perpetrator of any crime of violence or non-forcible sex offense (as those terms are defined in 34 C.F.R. 99.39), if the student is found responsible on or after October 7, 1998, for violating the University's rules or policies with respect to such crime or offense. Such disclosure shall include only the name of the student, the violation committed, and any sanction imposed by the University on that student. Such disclosure may include the name of any other student, such as a victim or witness, only with the written consent of that other student.

**11. Alcohol and Drug Violations**. The University may disclose to a parent or legal guardian of a student, information regarding any violation of any Federal, State, or local law, or of any rule or policy of the University, governing the use or possession of alcohol or a controlled substance, regardless of whether that information is contained in the student's education records, if the student is under the age of 21 at the time of disclosure to the parent, and the University determines that the student is responsible for a student conduct violation with respect to such use or possession.

**12. Federal, State, and Local Officials and Educational Authorities**. Subject to the requirements of 34 CFR § 99.35, the University may disclose education records to authorized representatives of (i) The Comptroller General of the United States; (ii) The Attorney General of the United States; (iii) The Secretary; or (iv) State and local educational authorities.

**13. Institutional Studies**. The University may disclose education records, but only under the conditions set forth in 34 CFR § 99.31(a)(6), to organizations conducting studies for, or on behalf of, educational agencies or institutions to (A) Develop, validate, or administer predictive tests; (B) Administer student aid programs; or (C) Improve instruction.

**14. Contractors**. The University may disclose education records to a contractor, consultant, volunteer, or other party to whom the University has outsourced institutional services or functions, provided that the outside party:

- Performs an institutional service or function for which University would otherwise use employees;
- Is under the direct control of the University with respect to the use and maintenance of education records; and
- Is subject to the requirements of 34 CFR § Section 99.33(a) governing the use and redisclosure of Personally Identifiable Information from education records.

**15. Registered Sex Offenders**. The University may disclose education records concerning sex offenders and other individuals required to register under Section 170101 of the Violent Crime Control and Law Enforcement Act of 1994, 42 U.S.C. 14071, if the information was provided to the University under 42 U.S.C. 14071 and applicable Federal guidelines.

**C.** To request amendment of the student's education records to ensure that they are not inaccurate or misleading:

A student who wishes to ask the University to amend a record should make a request to the University Registrar pursuant to the procedures in Attachment B to University Policy 402. The student should clearly identify the part of the record the student wants changed, and specify why it should be changed.

If the University decides not to amend the record as requested, the University will notify the student in writing of the decision and the student's right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

**D.** To be notified of the student's privacy rights under FERPA, as indicated by this Notification.

**E.** To file a complaint with the U.S. Department of Education concerning alleged failures by the University to comply with the requirements of FERPA. Complaints may be filed via email by completing the form at https://studentprivacy.ed.gov/file-a-complaint and emailing to FERPA.Complaints@ed.gov. Complaints may also be filed by mail at the following address

U.S. Department of Education
Student Privacy Policy Office
400 Maryland Avenue, SW
Washington, DC 20202-8520

## II. DEFINITIONS

**"Directory Information"** means information in a student's education record that would not generally be considered harmful or an invasion of privacy if disclosed. At UNC Charlotte, directory information consists of the student's name, major field of study, dates of attendance, enrollment status, degrees and awards (including scholarships and distinctions) received; and county of residence for award, scholarship, or distinction recipients.

Photographs, videos, or other media containing a student's image or likeness (collectively, "student images") and University-issued student

electronic mail addresses ("email addresses") are designated by UNC Charlotte as "Limited Use Directory Information." Use and disclosure of Limited Use Directory Information will be restricted to:

1. publication in official University publications or on social media sites or websites hosted or maintained by, on behalf of, or for the benefit of the University, including the University's online directory and internal email system;
2. University officials who have access, consistent with FERPA, to such information and only in conjunction with a legitimate educational interest; and
3. external parties contractually affiliated with the University, provided such affiliation requires the sharing of Limited Use Directory Information.

In addition, the following shall be considered Limited Use Directory Information that may be disclosed only to other students enrolled in the same course (regardless of whether such students are enrolled in the same class section or break-out group) that has been audio or video recorded by the University, for instructional and educational purposes only:

1. name, to the extent it is referenced or captured during the audio or video recording;
2. any photograph or image of the student captured during the audio or video recording;
3. any audio or video recording of the student participating in the course; and
4. any online chats or other recorded communications among participants in the course captured during the audio or video recording.

A student who requests to withhold this Limited Use Directory Information from disclosure pursuant to Section II.B.1 of University Policy 402 may limit the extent to which they will be able to participate in the course.

To protect the privacy of other students, students are not permitted to make their own recordings of class sessions or to share or distribute University recordings of class sessions.

"**Education Records**" include records directly related to a student that are maintained by UNC Charlotte. Education records **do not** include:

1. Records of instructional, administrative, and educational personnel that are in the sole possession of the maker (i.e. file notes of conversations), are used only as a personal memory aid, and are not accessible or revealed to any individual except a temporary substitute;
2. Records of the UNC Charlotte campus police;
3. Student medical and counseling records created, maintained, and used only in connection with provision of medical treatment or counseling to the student, that are not disclosed to anyone other than the individuals providing the treatment. (While a student may not inspect their medical records, these records may be reviewed by a physician of the student's choice);
4. Employment records unrelated to the student's status as a student;
5. Records created or received by an educational agency or institution after an individual is no longer a student in attendance, and that are not directly related to the individual's attendance as a student;
6. Grades on peer-graded papers before they are collected and recorded by a teacher.

"**Personally Identifiable Information**" includes, but is not limited to:

- The student's name;
- The name of the student's parent or other family members;
- The address of the student or student's family;
- A personal identifier, such as the student's social security number, student identification number, or biometric record;
- Other indirect identifiers, such as the student's date of birth, place of birth, and mother's maiden name;
- Other information that, alone or in combination, is linked or linkable to a specific student that would allow a reasonable person in the school community, who does not have personal knowledge of the relevant circumstances, to identify the student with reasonable certainty; or
- Information requested by a person who the University reasonably believes knows the identity of the student to whom the education record relates.

"**Student**" means an individual who is or who has been in attendance at UNC Charlotte. It does not include persons who have been admitted but did not attend the University. For the purposes of this policy, "attendance" includes attendance in person or by paper correspondence, videoconference, satellite, Internet, or other electronic information and telecommunications technologies for students who are not physically present in the classroom; and the period during which a person is working under a UNC Charlotte work-study program.

## III. COMPLIANCE

UNC Charlotte intends to comply fully with these requirements. University Policy 402, Student Education Records, explains the procedures for compliance. Students may obtain copies of the policy in the Office of the Registrar or online at legal.charlotte.edu/policies/up-402. That policy includes a list of the locations of all education records maintained by the institution.

All questions concerning this FERPA Annual Notification may be directed to the attention of the Office of the Registrar.

# State Authorization Reciprocity Agreements (SARA)

NC-sara.org

Every state has the authority to regulate which postsecondary institutions offer education within its boundaries, including online programs and courses. The need to seek state authorization for online learning depends on a combination of each state's laws and the activities that a course, program, or institution is conducting in that state.

UNC Charlotte participates in the national State Authorization Reciprocity Agreements (SARA, see additional information below) and is, therefore, authorized to offer online programs and courses in all its member states and territories. Details on state authorization at UNC Charlotte can be found on the School of Professional Studies State Authorization page (https://professional.charlotte.edu/state-authorization/.

**SARA Complaint Resolution Procedures: UNC Charlotte**

UNC Charlotte's State Authorization Student Complaint Resolution Procedures can be found on the School of Professional Studies State Authorization page (https://professional.charlotte.edu/state-authorization/complaint-resolution/). With all student complaints, students are advised to put their concerns in writing and carefully document the events that led to the complaint or grievance. Concerns should be expressed as soon as possible after the event occurs; some of the procedures have specific deadlines for filing grievances or complaints.

A complaint is typically an informal expression of dissatisfaction regarding a student's day-to-day student experience, such as a concern about campus facilities, long wait times for services, or a minor disagreement. These are best handled through direct, informal conversation with the relevant department to find a quick and practical solution. (In contrast, a formal grievance is a formal allegation that a specific university policy, standard, or procedure has been violated and is handled under the Student Grievance Procedure.)

The Student Assistance and Support Services (SASS) unit in the Dean of Students Office (https://sass.charlotte.edu/) can provide guidance about complaints and formal grievances and appropriate avenues to express concerns about University experiences. If a complaint cannot be resolved to the student's satisfaction through the institution's complaint process, students may file a complaint with the North Carolina Post-Secondary Education Complaints unit (https://www.northcarolina.edu/post-secondary-education-complaints/).

If the complaint or grievance is not resolved to the student's satisfaction after completing the above steps AND the complaint pertains to online/distance education, students may also file a complaint through SARA North Carolina (SARA-NC) (https://www2.ncseaa.edu/saranc/index.html), or in the state in which they reside (if residing outside North Carolina). Please note: SARA North Carolina does not accept complaints regarding grades or student conduct violations.

Students may also file a complaint with UNC Charlotte's regional accrediting agency, the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) (https://www.sacscoc.org).

**SARA Student Complaint Process**

Section 4.5 of the NC-SARA Policy Manual also provides complaint resolution procedures. To access these procedures, please visit https://nc-sara.org/resources/sara-policy-manual-242. Generally, complaints against an institution operating under SARA policies go first through the institution's own procedures for resolution of grievances.

Effective through June 30, 2026: If a person bringing a complaint is not satisfied with the outcome of the institutional process for handling complaints, the complaint (except for complaints about grades or student conduct violations) may be appealed, within two years of the incident about which the complaint is made. The resolution of the complaint by the institution's home state SARA State Portal Entity, through its SARA complaint resolution process, will generally be final.

Effective beginning July 1, 2026: If the complainant is not satisfied with the outcome of the institution's complaint process, the resolution of the complaint (except for complaints about grades or student conduct violations) may be appealed, within two years of the incident about which the complaint is made, to the SARA State Portal Entity of the home state of the institution or to the SARA State Portal Entity of the state in which the student is located. The SARA State Portal Entity that receives the appeal shall notify the SARA State Portal Entity of the institution's home state and provide to the student the contact information of the SARA State Portal Entity of the institution's home state. The resolution of the complaint appeal by the institution's home state SARA State Portal Entity, through its SARA complaint resolution process, will generally be final.

Effective through June 30, 2026: While the final resolution of the complaint rests with the SARA State Portal Entity in the home state of the institution against which the complaint has been lodged, the SARA State Portal Entity in the complainant's location state may assist as needed. The final disposition of a complaint resolved by the home state shall be communicated to the SARA State Portal Entity in the state where the student lived at the time of the incident leading to the complaint, if known.

Effective beginning July 1, 2026: The SARA State Portal Entity of the institution's home state shall communicate its final resolution of a complaint appeal to the student and to the SARA State Portal Entity of the state where the student was located at the time of the incident leading to the complaint, if known.

# *Financial* Information

# Undergraduate Tuition and Fees

UNC Charlotte is a publicly supported institution and primarily receives its revenue from the State of NC appropriations, in addition to tuition and fees. It is the combination of tuition and fees that primarily supports the operations and expansion of UNC Charlotte. Tuition and fees are approved by the Student Representatives, UNC Charlotte Board of Trustees, and the UNC Board of Governors. Tuition rates are also approved by the NC General Assembly. These fees are mandatory to every student and cannot be waived.

Tuition and fees are billed by credit hour for Fall, Spring, and Summer terms. 12 or more credit hours are considered full-time for undergraduate students, and 9 or more credit hours are considered full-time for graduate students.

Charges for tuition and fees vary according to the student's status as a resident or non-resident of North Carolina. A non-resident student pays a higher rate of tuition than a legal resident. For more details, see the heading for *Residence Status for Tuition Purposes* later in this section.

**For a complete list of current tuition and fees, visit https://ninercentral.charlotte.edu/billing-payments-refunds/tuition-and-fees/.**

**The University reserves the right, with the approval of proper authorities, to make changes in tuition and fees at any time. The University also reserves the right to correct any clerical errors on a student's account. For the most current listing of tuition and fees at The University of North Carolina at Charlotte, see ninercentral.charlotte.edu.**

## Fixed Tuition Program

The Fixed Tuition program provides eligible, in-state undergraduate students with the same tuition rate for a specific period of continuous enrollment. The Fixed Tuition program only includes tuition and not fees. Fees may be increased annually.

For eligible Freshmen seeking a 4-year bachelor's degree, the tuition rate will be fixed for eight consecutive semesters. For eligible Transfer students, the tuition rate will be fixed for a prorated period of time based on the prior credit they have earned or transferred in from other institutions. Students may view their fixed tuition eligibility period in Banner Self Service (under Student Services/Student Accounts > Fixed Tuition Information).

For more information, visit ninercentral.charlotte.edu/billing-payments-refunds/tuition-and-fees/fixed-tuition-program.

## Residence Status for Tuition Purposes

Tuition charges are based upon classification of a student as a resident or a non-resident of North Carolina for tuition purposes. The North Carolina Residency Determination Service (RDS), the sole authority for residency determinations, shall determine whether a student is a resident or non-resident for tuition purposes.

### Residency Application Procedure

A new, incoming, or current student who wishes to request a residency classification will apply using the Residency Determination Service (RDS). RDS is the entity responsible for all new classifications of residency in North Carolina. To begin the process, visit www.NCresidency.org. ALL student inquiries about initial determinations, reconsiderations, or appeals, should be directed to RDS. Students may contact RDS at 844-319-3640 or rdsinfo@ncresidency.org.

### Appeal Procedure

A new, incoming, or current student who has exhausted the residency application procedure and has been classified as a non-resident for tuition purposes, may request further consideration of that decision to the Residency Determination Service (RDS). RDS is the entity responsible for all classifications of residency in North Carolina. ALL student inquiries about initial determinations, reconsiderations or appeals, should be directed to RDS. Students may contact RDS at 844-319-3640 or rdsinfo@ncresidency.org.

## Required Fees

The required fees included in the Tuition and Fees table above are explained below.

### 49er ID Access Fee

This fee supports the University's 49er ID operations and support. The ID is not only used for identification purposes, but also as a library card and

as a campus card for dining and vending purchases. This fee does not cover the replacement of a lost or stolen card.

### Ed and Tech Fee
This fee is directly related to the infrastructure supporting student technology needs across campus including hardware and software applications, supplies for educational materials, web services, laboratory expenses and equipment, public student computing labs, central email and Internet services, training classes and classrooms, and central help desk services.

### Food Service Facilities Fee
This fee provides funds to support year-round access, maintenance, repairs, and operation of campus dining facilities.

### Health Services Fee
This fee funds health and counseling services for students, which includes the operations of the Student Health Center, the Center for Counseling and Psychological Services, and the Center for Wellness Promotion.

### Niner Course Pack Fee
This fee funds the Niner Course Pack for students, which provides textbook rental course materials to students who remain opted in the program. Students who wish to remove this fee must opt out of the program by the posted deadline each semester.

### Safety and Security Fee
This fee provides funding for several of the recommendations made by the UNC Board of Governors' 2013-14 UNC [system-wide] Campus Security Initiative report which include, but are not limited to: (1) campus police officer and telecommunicator compensation; (2) highly qualified and trained investigators and hearing officers for reports of serious offenses, such as sexual violence; (3) Title IX and Clery Act compliance coordination; (4) substance abuse counselors, case managers, and/or other counseling staff; and (5) system-level safety and security training, coordination, and audit functions. The fee may also provide funding to meet some additional campus-specific safety and security needs consistent with the report's recommendations. The structure for this fee allows $26 of the $30 collected from each student per academic year to fund campus level and shared-services activities, while $4 of the $30 is allocated by the UNC General Administration for system-wide coordination, trainings, and other shared services functions.

### Transportation Service Fee
This charge supports funding for Niner Transit (campus shuttle system), the Niner Paratransit service and the CATS All-Access Pass. The services provide UNC Charlotte with efficient and safe campus transportation, reduce vehicular congestion, and decrease the demand for proximity parking.

### UNC System Student Association Fee
This fee is a University of NC system-wide fee charged to all system students to support the University Of North Carolina Association of Student Governments. This association is a student led advocacy group whose main purpose is to ensure that the benefits of the University of North Carolina are extended to the people of North Carolina, as far as practicable, free of expense.

### University Fee
This is a consolidated fee that relates to University debt service payments (to construct new facilities and purchase administrative computing systems) and to support other activities/operations including Athletics programs and events, Student Activity Center operations, and Cone University Center operations. The following fees are consolidated into the University Fee:

- *Athletics* - Funds intercollegiate athletics, including salaries and maintenance and operation of athletic facilities.
- *Student Activities* - Funds non-academic student services (student unions, intramural facilities, student organizations, newspapers, yearbooks, and entertainment programs).
- *Debt Service* - Funds the principal and interest for capital projects. Examples for UNC Charlotte include the Student Union, Football Stadium, and Student Activity Facility.

## Special Fees
The following additional major or course fees are charged to cover the cost of supplies or special materials:

**ADDITIONAL MAJOR/COURSE FEES *(PER SEMESTER)***

| Major/Course | Fee |
|---|---|
| College of Arts + Architecture Student Fee | $125* |
| College of Computing and Informatics Student Fee | $112.50* |
| College of Engineering Student Fee | $150* |
| College of Health and Human Services Student Fee | $125* |
| Experiential Learning Fee/Co-op | $60 |
| International Student Fee (students with Visa type F or J) | $100 |
| KNES 1290 - First Aid: Responding to Emergencies | $20 |

** These fees apply to students enrolled in 6+ credit hours; students enrolled in 1-5 credit hours are charged half the fee listed. Based on 2025-2026 rates. Please visit NinerCentral for current rates. https://ninercentral.charlotte.edu/.*

### Application Fee
A $75 application fee must be submitted with the application for admission. The fee is nondeductible and nonrefundable.

### Credit by Examination Fee
A written examination for a course requires a fee of $15. A laboratory examination requiring the arrangement of such things as laboratory materials will require a fee of $25. A combination of a laboratory and written examination will require a fee of $30.

### Matriculation Fee
Instead of paying separate fees for such things as new student convocation, commencement, and hardcopy academic transcripts, UNC Charlotte students pay a matriculation fee and receive these and other services at no charge. Students are charged the $150 matriculation fee upon entry into a baccalaureate, graduate certificate/master's, and doctoral program at UNC Charlotte.

# Dining, Housing, and Parking

aux.charlotte.edu
housing.charlotte.edu
pats.charlotte.edu

## Dining and Meal Plans
Meal plans, the 49er Account, and the Optional Dining Account all reside on the UNC Charlotte 49er ID.

For dining locations, menus, meal plans, and meal plan policies, visit Auxiliary Services at aux.charlotte.edu/meal-plans.

**A meal plan purchase provides these advantages:**
- Convenience: The 49er ID is used for all campus dining purchases.
- Variety and Flexibility: Meal plans to meet your dining needs; numerous places to eat on campus including late evening and weekend dining and many popular, national brands.
- Diet Preferences: Vegetarian, vegan and healthy options are available at Social 704 in the Student Union, SoVi and Charlotte Greens in South Village Crossing and most retail locations.

**Overview of Meal Plans**
All first-year students living on campus, regardless of their housing assignment, are required to purchase one of The Daily Plan options. This meal plan must be purchased each semester of occupancy.

Upper-class students assigned to residence halls without private kitchens are also considered to be living in "required housing" and must choose a meal plan as part of the housing contract. These residences include Holshouser, Hunt, Sanford, Scott, Hawthorn, Laurel, Lynch, Oak and the suites in Belk, Levine, Miltimore, Wallis and Witherspoon.

For a listing of available dining locations, menus, meal plans, and meal plan policies, visit aux.charlotte.edu/dining/meal-plans.

## Housing
Below are the current academic year's per semester rates for housing at UNC Charlotte. Rates include rent, utilities (including internet, cable, and laundry) and membership in the Resident Students Association (RSA). Prices and plans are subject to change. Housing types are based on availability. Current pricing can be found online at housing.charlotte.edu/apply/rates.

| HOUSING PER SEMESTER | |
|---|---|
| **Type** | **Fee** |
| Tower (Double Occupancy) | $3,380 - $3,700 |
| Tower (Single Occupancy) | $4,550 |
| Suite | $4,250 - $5,100 |
| Apartment | $4,700 – $5,400 |
| Greek Village | $4,450 - $4,500 |

Admission to UNC Charlotte does not guarantee residence hall space. Arrangements for on-campus housing are made, after admission, with the Office of Housing and Residence Life. Shared Residence Hall space is not available to spouses or children of enrolled students.

### Housing Deposit
A $200 deposit must be submitted with all housing applications. The deposit is not applied toward payment of fees. It is refunded only after the student has left on-campus housing and only if the student has met all financial obligations to the University. In the case of contract cancellation, the date of receipt of the written request for cancellation will

determine, in part, the student's financial obligation to the University (please see the Housing Contract for the current academic year for specific terms and cancellation dates).

## Parking

Students attending UNC Charlotte (and faculty and staff) are required to purchase a virtual parking permit or pay a visitor fee in order to park on campus. Vehicle registration and virtual permit purchase is available online. **Virtual permits are required at all times when parked on campus, unless parked in a visitor parking area.** For students, two categories of virtual permits are issued: *Resident*, for students living on-campus, and *Commuter*, for students living off-campus. Lot-specific discount permits are available on a first-come, first-served basis.

The 2024-2025 annual rate for a resident or full-time commuter student is $480. **Please see pats.charlotte.edu for a complete list of fees, permit information, and where each type of permit allows you to park.** Full-time virtual permits are valid from August 1 of one year through August 14 of the following year.

Parking permits are available to purchase for the fall semester only or the full academic year. Discount remote lot and night permits are also available to commuters. Night permits are valid only after 3 p.m. Parking before 3 p.m. requires parking and payment in a visitor space.

The primary factor that determines permit prices is the cost of new deck construction and replacing flat lots with decks. Neither tuition dollars nor state funds are used toward parking facilities; therefore, parking fees must pay for construction and maintenance of all decks, lots and associated operations.

### Penalties for Parking Violations

- Parking and Traffic regulations are enforced 24 hours a day, seven days a week. Currently, permits are enforced at all times, and meters are enforced from 5 a.m. on Monday through 10 p.m. on Friday.
- Violators of University parking regulations are subject to penalties ranging from $20 to $480, depending on the severity of the violation.
- If a citation is not paid or appealed within ten (10) business days, the penalty will be applied to the student's University account. Subsequent registration may be withheld for non-payment.
- Copies of parking regulations and the citation penalty list are posted on the PaTS website.

The Parking and Transportation Services website, pats.charlotte.edu, has current UNC Charlotte parking ordinances, parking policy information, virtual permit and citation FAQs. It is also a source for transportation information, updates and changes or disruptions to campus parking and transportation.

Questions concerning parking on campus should be directed to Parking and Transportation Services Communications Center at 704-687-0161; open 5 a.m. Monday through 10 p.m. Friday, except on holidays when the University is closed. Office hours are 8 a.m. to 5 p.m., Monday-Friday. Emergency situations and questions at other times should be directed to the Campus Police at 704-687-2200.

# Financial Aid

ninercentral.charlotte.edu/financial-aid

UNC Charlotte administers financial aid without regard to race, color, national origin, religion, gender, sexual orientation, age, or disability.

The University offers a comprehensive program of student financial aid (scholarships, grants, loans, and part-time employment) to assist both graduate and undergraduate students in meeting educational expenses. Reasonable educational expenses include tuition and fees, room and board, books, supplies, transportation, miscellaneous personal expenses, and expenses related to maintenance of a student's dependents.

Course Program of Study (CPOS) is a federal requirement from the U.S. Department of Education that allows financial aid to apply only to coursework that counts toward a student's declared degree program. UNC Charlotte monitors CPOS each term to ensure students remain enrolled in courses that apply toward their program requirements as outlined in the University Catalog. A student's catalog year and degree requirements can be viewed in their Degree Works audit. To receive a full financial aid award, students must be enrolled each fall and spring in at least twelve (12) undergraduate or nine (9) graduate credit hours that apply toward their program of study. Enrollment in courses that do not count toward the program, dropped courses, or changes of major may reduce financial aid eligibility, and the timing of these changes can be critical. More information can be found at https://registrar.charlotte.edu/course-program-of-study/.

### Eligibility

The programs of student financial aid are administered according to a nationally accepted policy that the family, meaning parents (or those acting in place of parents) and/or spouse, is responsible for a student's educational expenses. Therefore, eligibility for financial aid will be determined by a comparison of a budget (educational expenses as defined above) for the period of attendance with what the student's family can reasonably be expected to contribute.

A financial aid applicant will be considered for available assistance for which they are eligible if the student:

1) Completes the application process and related forms only after thoroughly reading all instructions.
2) Completes the admission application process and is accepted for enrollment at UNC Charlotte.
3) Is working toward a degree or certificate and not simply taking courses.

## Satisfactory Academic Progress (SAP) Policy

Federal and state regulations require that students maintain a certain level of academic performance in order to be eligible for and keep their financial aid. This is known as Satisfactory Academic Progress (SAP). All students who wish to qualify for financial aid must meet three standards known as SAP. These standards include:

1) Minimum cumulative Grade Point Average (GPA)
2) Minimum credit hour completion rate
3) Completion of a degree or program of study within a maximum number of credit hours

All prior coursework, attempted and earned, is reviewed in the determination of SAP. Students who have been readmitted as a result of the Forgiveness Policy are still subject to Satisfactory Academic Progress standards for all attempted coursework at UNC Charlotte.

For more complete details on Satisfactory Academic Progress, see the Financial Aid website at ninercentral.charlotte.edu/financial-aid-loans/keeping-your-aid/satisfactory-academic-progress.

## Application Process

To apply for the following programs, students must complete the Free Application for Federal Student Aid using the instructions provided online at www.fafsa.gov. The federal school code for UNC Charlotte is 002975.

- Federal Direct Student Loan
- Federal Pell Grant*
- Federal Supplemental Educational Opportunity Grant*
- Federal TEACH Grant
- Federal Work Study
- Next North Carolina Scholarship*
- University Loans

**For undergraduate students only*

## Renewal Process

Renewal of financial aid is based upon a student making satisfactory academic progress. The Free Application for Federal Student Aid is required each year that a student applies for financial aid.

# Financial Aid Programs

When students apply for financial aid through FAFSA, they receive an aid offer (or "package") that includes a combination of these types of aid, based on their financial need and eligibility. Students may earn more than one type of financial aid. For details about the below financial aid options, please visit finaid.charlotte.edu.

## Grants

### Federal

Federal Grants, with the exception of TEACH, are awarded to students demonstrating significant financial need as determined by the FAFSA. TEACH is not a need-based grant and could require repayment if the recipient does not fulfill the service agreement.

Completion of the FAFSA is required for grant funding. Grant funding does not have to be repaid; however, the availability of grant funding can be limited. Completing the FAFSA by March 1 will ensure the maximum financial aid award.

- Pell Grant
- Federal Work Study (FWS)
- Supplemental Educational Opportunity Grant (FSEOG)
- TEACH Grant (requires repayment if Agreement to Serve is not fulfilled)

### State

State grants are awarded to North Carolina residents based on funding availability and need. Recipients are determined by the state of North Carolina and must be seeking their first undergraduate degree. Restrictions regarding credit hours and semesters completed may apply.

- Next North Carolina Scholarship

### Institutional

Students that apply for financial aid by the established priority date of January 1 are considered for institutional need-based awards provided funding is available.

- State Appropriated Grant (SAG)
- Tuition Assistance Grant (TAG)

## Loans

Loans are funds that students borrow from the federal government or other lenders and that must be repaid when students are out of school. Repayment begins six months after students graduate, withdraw, or drop below full-time. We recommend that students borrow only what they need.

- Federal Direct Loan Program
- Federal PLUS Direct Loans
- Alternative Loans

## Federal Work Study

Federal Work-Study is a work program through which students earn money to help them pay for school. Since Federal Work-Study funding is limited, it is not included in all student awards. Priority is given to students with higher calculated financial eligibility who indicate on the FAFSA that they are interested in student employment. Students can

work a maximum of 20 hours per week.

## Other Assistance

### Education for the Vocationally Disabled

Vocationally disabled students are eligible for aid provided by the North Carolina State Division of Vocational Rehabilitation. This aid takes the form of services that include vocational counseling and guidance and placement. Payment of expenses such as training, medical treatment, room and board, books, fees, and tuition may be available. A vocational rehabilitation officer is available in Charlotte for interviewing applicants. Appointments may be made by contacting Vocational Rehabilitation Services at 704-568-8804. Their offices are located at 5501 Executive Center Drive in Charlotte.

### Veterans Benefits

UNC Charlotte's Veterans Student Services Office (VSSO) works with the Veterans Administration to assist in administering the various programs of benefit to veterans or eligible relatives of veterans. The VSSO Certifying Official certifies enrollment and transmits necessary credentials and information to the proper Veterans Administrative Office.

Admission to the University should be obtained before the student makes application for veteran's benefits. Applicants must be accepted into a degree program to receive benefits.

In order to be eligible for the full monthly allowance under any of the above laws, an undergraduate student must be enrolled for 12 or more semester hours and a graduate student must be enrolled for nine or more semester hours. Those enrolled on a part-time basis will be eligible for part-time compensation. Students are responsible for reporting any change in enrollment status to the VSO Certifying Official.

For details about available programs, please visit veterans.charlotte.edu or call the VA's toll-free number at 1-800-827-1000.

### Children of Veterans

The North Carolina Department of Veterans Affairs awards scholarships for the children of certain deceased or disabled veterans. Those awarded "full" scholarships are entitled to tuition, mandatory fees, board allowance, and room allowance; those awarded "limited" scholarships are entitled to tuition and mandatory fees. Written requests for benefits information may be directed to: VA Atlanta Regional Office, Post Office Box 100022, Decatur, GA 30031-7002 (telephone 888-442-4551).

Before the time of registration, each eligible student who wishes to enter the University should: (1) apply for admission following University procedures and (2) apply for a scholarship award to the North Carolina Department of Veterans Affairs.

# Scholarships

scholarships.charlotte.edu

UNC Charlotte provides all new freshmen, transfer, and returning undergraduate and graduate students the opportunity to apply for scholarships at the start of each academic year. Scholarships can be merit-based or need-based, and may also focus on other criteria defined by the individual donor or donors who fund the award. Scholarships can be used to offset tuition, room and board, books, or study abroad experiences, and do not have to be repaid.

UNC Charlotte committed to offering students an elite scholarship resource on campus by establishing the University Scholarship Office in 2015. This designated student service office exists to make it easier for newly admitted and continuing students to find and apply for scholarship opportunities, while serving as the single point of contact to students, parents, faculty, and staff who have scholarship-related questions.

## NinerScholars Portal

NinerScholars serves as the common application system for all scholarships offered by a college, department, office, or program at UNC Charlotte. NinerScholars uses the University's student information system to build a scholarship profile specific to each student's academic history and current status. The Portal then compares a student's profile to the criteria for each UNC Charlotte scholarship, matches them with those scholarships they are eligible for, and provides the student with the ability to apply in real-time.

The NinerScholars Portal gives students direct access to apply to more than 2,000 scholarship opportunities with one application, through one online system. To access the NinerScholars Portal, learn more about the scholarship opportunities below, or take advantage of additional scholarship resources, visit the University Scholarship Office website at scholarships.charlotte.edu.

## Scholarship Opportunities

### University Scholarships

Last year, UNC Charlotte awarded more than 2,500 scholarships to recognize outstanding students for prior and sustained academic achievement, and provide assistance to students with demonstrated financial need. All University scholarships must be applied for through the NinerScholars Portal. UNC Charlotte does not award automatic merit or need-based scholarships without an application. To be considered for need-based scholarships, a student must complete a Free Application for Federal Student Aid (FAFSA) for the upcoming academic year and have no outstanding requirements or financial obligations to the University.

### Outside Scholarships

The University Scholarship Office maintains a comprehensive database of scholarship opportunities that are administered and awarded by organizations, or individual donors, outside the University. This resource is free and allows students to filter external scholarship opportunities, specific to their major, GPA, or professional goals. This resource can be found at scholarships.charlotte.edu.

### Levine Scholars Program

The Levine Scholars Program is UNC Charlotte's most prestigious merit scholarship program established in 2009 by benefactors Sandra and Leon Levine. The inaugural class of Levine Scholars entered in the Fall semester of 2010 and a new cohort of approximately 50 students is selected to join the program each year. Levine Scholars carry a high honor, one that bestows tremendous opportunities and assumes high expectations of its recipients – as students, as leaders within the university, and as citizens of the global community. No matter what their interests, Levine Scholars find campus and community partners eager to embrace their contributions and enhance their education through hands-on

experiences. To complement classroom learning, Levine Scholars participate in rich and varied opportunities in the vibrant commercial and cultural center of Charlotte. To learn more about the Levine Scholars, visit levinescholars.charlotte.edu.

### Honors College Scholarships

The four merit scholarships below are administered directly by the Honors College. Eligible students interested in applying for one of these opportunities must do so by submitting supplemental materials as part of the Honors College Admission Application.

#### *Albert Engineering Leadership Scholars Program*

The Albert Engineering Leadership Scholars Program was established by Craig Albert ('85) to invest in the next generation of engineering student leaders, and to produce graduates distinguished by their excellence in applied learning, campus involvement, and professional development. This scholarship is awarded to incoming freshmen and is renewable for up to three additional years contingent upon maintaining a cumulative GPA of 3.0, continuing full-time enrollment, and meeting program requirements. Albert Scholars receive an award equal to the cost of tuition and fees, room and board, and books.

#### *Freeman Scholarship*

The Freeman Scholarship was established by Craig and Darla Albert ('85 and '83) in 2019. Freeman Scholars are impressive, thoughtful, and persistent in overcoming challenges. They all demonstrate intellectual curiosity and a strong academic foundation; community-mindedness and dedication to service; and capacity for reflection, leadership, and growth. Recipients of the Freeman Scholarship are awarded in-state tuition and fees renewable for three additional years, membership in a multi-year honors program and support from the Honors College, and access to honors housing in Levine Hall.

#### *Johnson Scholarship*

In establishing the Johnson Scholarship, Gene and Vickie Johnson ('71 and '82) intend to create a perpetual endowment for the purpose of increasing opportunity for middle-income students at UNC Charlotte whose families do not qualify for federal grant aid programs and may struggle to afford a college education. Johnson Scholars may be enrolled in any major and must be eligible for one of the University's honors programs. In addition, recipients must have substantial unmet financial need and come from middle-income families who exceeded the threshold for federal grant aid. Recipients are awarded in-state tuition and fees renewable for three additional years.

#### *Martin Scholars Program*

The Martin Scholars Program is one of UNC Charlotte's leading merit scholarship programs, established in 2016 through the generosity of UNC Charlotte alumni Demond T. and Twakia "Kia" Martin ('97 and '98). Martin Scholars are promising, motivated students from underrepresented groups who demonstrate the highest level of financial need in pursuing a college education. Awards are made to new freshmen and transfer students, as well as continuing students. Martin Scholarships are renewable, and award amounts range with the purpose being to eliminate the burden of student loans for each recipient.

# Payment

ninercentral.charlotte.edu

The Office of the Bursar bills students for tuition, room and board, and various other University charges. Students with a balance receive an email to their UNC Charlotte email address informing them that their bill is available online at my.charlotte.edu. It is the student's responsibility to regularly monitor their UNC Charlotte email account. Failure to receive a billing statement or view their account online will not exempt students from having their registration canceled for non-payment.

Payment can be made by cash, check, online from a checking or savings account (eCheck), or by credit card (Visa, MasterCard, American Express, or Discover). All payments must be in U.S. currency. Remittance should be made payable to "UNC Charlotte" and identified with the student name and ID number.

UNC Charlotte offers a payment plan which allows students to spread out their tuition and fees, on-campus housing and dining, and other charges billed to the student's account into multiple installment payments.

## Returned Check Policy

If a check is returned by the bank, students are notified via their UNC Charlotte email account, indicating that a penalty of $35 has been assessed to their student account. A hold is placed on the student's record until the returned check is covered and the penalty is paid.

A student who pays a previous balance with a check in order to have a registration hold flag lifted will have their registration canceled if the check is returned by the bank for any reason.

## Parent Information/Authorized Payers

Authorized Payers are family and friends that have been given the ability to access the Student Account information ONLY. In compliance with the Family Educational Rights and Privacy Act of 1974 (FERPA), student financial records may not be shared with a third party without the student's written consent. Adding an authorized payer is the student's written consent that an individual may view their account information and make payments on their behalf. Please note that authorized payers DO NOT have access to a student's stored payment methods, academic records, or other personal information.

Students can add Authorized Payers by logging in to my.charlotte.edu and then clicking the "View or Add Authorized Payer" button located in the My Student Account block.

Authorized Payers will receive an email informing them that they have been granted access to the student's account information. The email notification will include access information that will be used when accessing the information from the Payment/Billing Suite at ecom.charlotte.edu/C21561_tsa/web/login.jsp.

# Refunds

ninercentral.charlotte.edu

## Fall and Spring Semesters

Students who officially withdraw (drop all courses) from the University during the Fall or Spring semester will receive a refund as follows:

| TUITION AND FEES REFUNDS | |
|---|---|
| **Period of Withdrawal** | **Percent of Tuition and Fees Refunded** |
| Before last day to Add/Drop course(s) with no grade | 100% |
| Period 1* | 90% |
| Period 2* | 50% |
| Period 3* | 25% |
| Period 4* | 0% |

**Generally, each period is two weeks in length; however, for specific dates of each period, please visit the Refunds Schedule on the Niner Central website at ninercentral.charlotte.edu/billing-payments-refunds/refunds-reductions-hours/refunds-withdrawal.*

## Summer Terms

Students who officially withdraw (drop all courses) from the University during a Summer term will receive a refund as follows:

| TUITION AND FEES REFUNDS | |
|---|---|
| **Period of Withdrawal (Summer Terms)** | **Percent of Tuition and Fees Refunded** |
| Period 1* | 100% |
| Period 2 | 0% |

**Generally, the first period is very short due to the condensed Summer terms; however, for specific dates of each period, please visit the Refunds Schedule on the Niner Central website at ninercentral.charlotte.edu/billing-payments-refunds/refunds-reductions-hours/refunds-withdrawal.*

## Exceptions

Charges are refundable by administrative action on a prorated basis for the unexpired portion of the term for the following reasons: death of the student, withdrawal for adequate medical reason as certified by the University's Student Health Center or family doctor, death in the immediate family that necessitates student withdrawal, and dismissal or suspension from school. Immediate family is defined as wife, husband, parent, child, brother, sister, grandparent, and grandchildren, and includes step-, half- and in-law relationships. Appropriate documentation must be submitted to Student Assistance and Support Services.

# Appeal Procedure for Refunds

Students are provided an opportunity to appeal charges associated with tuition, fees, housing, and dining. The student will have the burden of proving a case for appeal by a preponderance of evidence. Appeals will not be considered that arise from a student's error on registration or situations resulting from a deliberate decision or series of decisions by the student, such as a failure to be aware of deadlines and/or due dates. Full reductions or refunds are typically not granted for students who attend any portion of a semester. Appeals must be substantiated with supporting documentation or verification of extenuating circumstances that warrant basis for the appeal. Extenuating circumstances may include personal or family emergencies as a result of the illness or death of a family member, medical and/or mental health reasons, orders requiring military service, or errors committed by the University. At both levels of appeal, review and consideration for a decision will be based upon the information provided in the appeal as well as the supporting documentation accompanying the appeal***. Appeals submitted without supporting documentation will not be processed for review and consideration until supporting documentation is provided. Students must submit a first level appeal within one calendar year from the date the fee was initially charged to the student. The second level of appeal must be submitted within ten (10) business days of the delivery of the first appeal decision.*** See thd.charlotte.edu for more details.

# College of Arts + Architecture

# College of Arts + Architecture

coaa.charlotte.edu

The College of Arts + Architecture is a community of curious individuals and skilled problem solvers who care about the impact of our work on people and the complex social challenges we face.

The primary mission of the College of Arts + Architecture is to promote the arts and design as engines of civic imagination and social responsibility through distinction in creative teaching and research, artistic performance, and community-driven work. Through investigations in the performing and visual arts, design and affiliated pursuits, we provoke thought, cultivate aesthetic sensibilities, make space for memory and reflection, instigate creative action, and help build communities.

The College of Arts + Architecture provides programs that prepare graduates for careers as architects, artists, leaders, cultural administrators, and innovators in our emerging creative economy. The college draws together in a single academic unit disciplines with common histories, methods of inquiry, and potential for contributions to the community. It serves to enhance creative, professional, and cultural production within UNC Charlotte and to help lead the creative economy in the region and state. The college is responsive to both cross-cultural exchange and interdisciplinary research and programming and seeks to provide new connections to the public realm and new opportunities for community leadership.

The College of Arts + Architecture consists of one school and four departments, which share basic educational values and academic aspirations:

- **David R. Ravin School of Architecture**
- **Department of Art and Art History**
- **Department of Dance**
- **Department of Music**
- **Department of Theatre**

## Degree Programs

All first-time, full-time freshmen entering the College of Arts + Architecture and UNC Charlotte in the Fall are required to take COAA 1101 (Student Success in Architecture, Art, Performance, and Design) during their first semester in the college.

All students in the College of Arts + Architecture must also satisfy the requirements for the degree program(s) in which they are enrolled. Students should consult with their academic advisor and chosen department to make certain they fully understand all degree requirements.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

**Majors**

- Bachelor of Arts in Architecture
- Bachelor of Arts in Art
- Bachelor of Fine Arts in Art
- Bachelor of Arts in Art History
- Bachelor of Arts in Dance
- Bachelor of Fine Arts in Graphic Design
- Bachelor of Arts in Music
- Bachelor of Music
- Bachelor of Arts in Theatre

**Minors**

- Architectural History and Heritage
- Art History
- Dance
- Music Performance
- Theatre

**Undergraduate Certificates**

- Dance
- Jazz
- Musical Theatre

**Foreign Language Requirement**

All students who earn a degree within the College of Arts + Architecture* are required to demonstrate proficiency in the language of their choice through the 1202 level. Proficiency can be demonstrated in one of the following ways:

- Completing the required coursework at UNC Charlotte
- Completing three years of the same foreign language in high school through level three
- Achieving a satisfactory score on the foreign language placement test (in Spanish, French, or German)
- Through approved transfer or transient credit earned at a college or university accredited by an accepted accrediting body
- A combination of the above methods (e.g., placing out of or earning transfer or transient credit for 1201 and completing the 1202 course, completing 1201

and placing out of or earning transfer or transient credit for 1202)

The following courses meet the College of Arts + Architecture's foreign language requirement. *Please note that the below courses also have prerequisites that students must meet prior to enrolling in the courses.*

ARBC 1202 - Elementary Arabic II (3)
CHNS 1202 - Elementary Chinese II (3)
FARS 1202 - Elementary Farsi II (3)
FREN 1202 - Elementary French II (3)
GERM 1202 - Elementary German II (3)
GREK 1202 - Elementary Ancient Greek II (4)
ITLN 1202 - Elementary Italian II (3)
JAPN 1202 - Elementary Japanese II (3)
LATN 1202 - Elementary Latin II (4)
MDGK 1202 - Elementary Modern Greek II (4)
PORT 1202 - Elementary Portuguese II (3)
RUSS 1202 - Elementary Russian II (3)
SPAN 1202 - Elementary Spanish II (4)
SWAH 1202 - Elementary Swahili II (4)

** This requirement applies to all students entering any degree program within the College of Arts + Architecture except those students in the B.F.A. in Art and the Music Education concentrations within the B.M. in Music.*

# Arts and Architecture Honors Program (AAHP)

With the founding of the College of Arts + Architecture (CoA+A), an Arts and Architecture Honors Program (AAHP) was established to provide an enriched academic and interdisciplinary experience for the college's most talented and self-motivated undergraduate students. The AAHP is one of the primary initiatives that formally brings students together from all units of the CoA+A. The AAHP furthers the CoA+A's goals of providing creative leadership for the University of North Carolina at Charlotte and greater Charlotte communities by encouraging and developing the full potential of its outstanding students. AAHP students take an active and engaged role in their own education within an interdisciplinary curriculum built on the shared nature of the built, visual, and performing arts. AAHP students not only explore connections between their various artistic disciplines, but also between the arts and the community. For additional details and application forms, visit the College of Arts + Architecture Honors website at coaa.charlotte.edu/college/honors.

## Admission Requirements

### Current Undergraduate Students and Transfers

- See University Admission Requirements
- See AAHP Prospective Students

## Course Requirements

### Introductory Course (1 credit hour)

AAHP 2600 - Introductory Honors Seminar (1)

### Elective Honors Course (3 credit hours)

*Select one course with the Honors designation (H). Any Theme courses (1501, 1502, 1511, 1512), as well as CTCM 2530 and WRDS 1103, that have an Honors section are eligible.*

### Seminar Courses (6 credit hours)

*Select two of the following (at least one of which is not from the student's department):*
AAHP 3701 - Honors Seminar in Dance (3)
AAHP 3702 - Honors Seminar in Architecture (3)
AAHP 3703 - Honors Seminar in Music (3)
AAHP 3704 - Honors Seminar in Theatre (3)
AAHP 3705 - Honors Seminar in Art and Art History (3)
AAHP 3706 - Interdisciplinary Honors Seminar (3)

### Honors Candidacy (1 credit hour)

AAHP 3790 - Honors Candidacy Proposal Writing (1)

### Thesis Course (3 credit hours)

AAHP 3791 - Honors Thesis (3)

This is an independent study course an AAHP student enrolls in with his or her Honors Thesis Advisor. It is taken during the student's final semester, and they must earn a grade of A. A student selects a Thesis Advisor during the Application to Candidacy process. Enrolling in this course is done only during a student's final semester and is required for completing the honors thesis and our program. All AAHP coursework must be completed before enrolling in AAHP 3791. AAHP 3791 is offered to an AAHP student after he or she successfully completes the Application to Candidacy process. The Application to Candidacy process is required for all students at UNC Charlotte completing an honors thesis. The Application to Candidacy process is undertaken during a student's penultimate semester (i.e., the semester before she or he enrolls in AAHP 3791). The process begins with a consultation with the AAHP Director. The process, which includes writing and researching a thesis proposal as well as forming a thesis committee of three faculty members, must be signed off on and submitted to the Honors College by Reading Day of the semester. Students do not receive any AAHP course credit for the Application to Candidacy work they undertake during the semester before enrolling in AAHP 3791. See the Arts and Architecture Honors Program (coaa.charlotte.edu/college/honors) for more details and the Application to Candidacy form.

## Progression Requirements

In order to graduate with the Arts + Architecture honors distinction, candidates must have a 3.4 cumulative GPA and complete the requirements outlined above.

# David R. Ravin School of Architecture

soa.charlotte.edu

## Undergraduate Programs

- **B.A. in Architecture**
  - **Architectural Studies**
  - **Practice**
  - **Pre-Professional**
- **Minor in Architectural History and Heritage**

The School of Architecture (SoA) offers an integrated collection of undergraduate and graduate degrees that prepares students for rewarding careers in architecture and its related disciplines. The undergraduate Bachelor of Arts in Architecture (B.A. in Architecture) is a 4-year degree that requires a minimum of 120 credit hours, which are earned by completing General Education requirements (as mandated by the University, the Core Program of the B.A. in Architecture, and one of three concentrations. All students begin in the Core Program without a concentration, and then declare a concentration (through discussions with their advisor) during the spring semester of their second-year in the program.

The courses in the Core Program include studios, seminars, and lecture courses that foreground the complementary exchange between making and thinking. Each concentration provides additional coursework catered to unique career and research opportunities that allow students to steer their education to their goals, aspirations, and curiosities. All three concentrations may lead to professional licensure, and pathways to that goal vary depending on the specific concentration earned within this degree and on academic performance. All three concentrations may also lead to careers that do not require professional licensure.
The B.A. in Architecture includes study abroad opportunities including summer programs, course-related travel, and its Rome Program, which is a semester-based program in Rome, Italy that occurs during the Spring semester of the fourth-year of the program.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

### Accreditation & Licensure

The B.A. in Architecture is not, by itself, a professional degree, and students who wish to earn a professional degree after completing this degree must pursue a Master of Architecture (M.Arch) degree from an institution accredited by the National Architectural Accrediting Board (NAAB). The M.Arch degree offered by the SoA is fully NAAB-accredited. NAAB annually reviews the program's curriculum, facilities, faculty, and other resources, and it conducts an intensive site visit every eight years (most recently in 2024). The SoA maintains full accreditation status as prescribed by this board and abides by the following statement:

*"In the United States, most registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit professional degree programs in architecture offered by institutions with U.S. regional accreditation, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture, and the Doctor of Architecture. A program may be granted an eight-year, three-year, or two-year term of accreditation, depending on the extent of its conformance with established educational standards.*

*Doctor of Architecture and Master of Architecture degree programs may require a preprofessional undergraduate degree in architecture for admission. However, the preprofessional degree is not, by itself, recognized as an accredited degree."*

Students earning the B.A. in Architecture may progress into the SoA's M.Arch. program according to the "Additional Policies & Requirements" sections of the catalog pages for each concentration (see below).

**Programs**

- Architecture, Architectural Studies Concentration, B.A.
- Architecture, Pre-Professional Concentration, B.A.
- Architecture, Practice Concentration, B.A.

**Minors**

- Architectural History and Heritage, Minor

### Areas of Academic Focus

Required and elective courses provide opportunities for topical study of issues, themes, subdisciplines, and methods, both current and historic to architectural practices. The School of Architecture faculty offer expertise and instruction in the following areas:

1) **Design -** Studios and seminars provide both analytical and synthetic educational experiences along with the opportunity to pursue intense study of physical-environmental subject(s). These courses link humanistic, physical phenomena, social-psychological, behavioral, perceptional, and aesthetic studies. Design courses focus on a sophisticated and detailed study of building and site design arising from the representational methods intrinsic to architecture as well as investigation and criticism of contemporary practice and practitioners as it pertains to the understanding, design, and making of architecture.

2) **History and Theory -** These courses provide an understanding of the relationships between culture and its physical architectural manifestations from ancient to contemporary times. Courses focus on interpretive lenses, research methods, and writing strategies for the historical analysis and criticism of architecture. History and theory courses explore how these activities inform and relate to contemporary architectural practice, as well as how related disciplines in the social sciences and humanities inform an understanding of the built environment.

3) **Building Technology -** These courses provide a quantitative and qualitative understanding of building materials, structural theory, design, environmental systems issues and principles, and building systems integration. Courses explore emerging issues of sustainable design and the development of innovative building envelopes and systems that utilize both new and traditional

materials, technology, and construction methods. Seeking to explore the historical as well as contemporary realms of thermal, tactile and visual issues of architectural technology, students address appropriate material selection, methods of daylighting, passive and active systems for heating and cooling with consideration of both qualitative and quantitative outcomes.

4) **Digital Design, Fabrication, and Visualization -** These courses provide practical and theoretical training on matters of basic and advanced computational practices, including instruction in scripting and digital fabrication. Courses focus on computation as it affects materiality, process, and interaction.

5) **Urbanism -** These courses focus on the critical role of architecture in the city -- the processes and specific intents of physical interventions in urban landscapes and infrastructures. Through the design of groups of buildings as well as larger scale urban areas, issues of policy, politics, finance, planning, place, and culture are introduced as part of the essential conception and history of the city fabric.

### Independent Studies
When appropriate, students may earn credit by pursuing a self-directed, faculty-approved study of a particular, significant architectural topic or subject.

### Research Studies
Students may earn credit through participation in directed faculty research projects.

### Rome Program and Education Abroad Opportunities
The School of Architecture conducts an international, semester-based program in Rome, Italy. This program provides a fully integrated curriculum in the Spring semester of the 4th year of the B.A. in Architecture program.

Additionally, the School encourages foreign study and exchange arrangements through Charlotte Global. In the past, School of Architecture students have studied at Kingston University (London, England); Lund Institute of Technology (Lund, Sweden); University of Technology (Delft, Netherlands); Tongji University (Shanghai, China); and the Royal Danish Academy of Fine Arts (Copenhagen, Denmark).

## Bachelor of Arts in Architecture, *with Concentration in Architectural Studies*
The David R. Ravin School of Architecture (SoA) offers an integrated collection of undergraduate and graduate degrees that prepares students for rewarding careers in architecture and its related disciplines. The undergraduate Bachelor of Arts in Architecture (B.A. in Architecture) is a 4-year degree that requires a minimum of 120 credit hours, which are earned by completing General Education requirements (as mandated by the University, the Core Program of the B.A. in Architecture, and one of three concentrations. All students begin in the Core Program without a concentration, and then declare a concentration (through discussions with their advisor) during the spring semester of their second-year in the program. Throughout the program, in order to streamline the progressive development of skills, methods, and ideas, courses are bundled into co-requisite packages that include a studio course coordinated with history, technology, and/or additional support courses.

The Architectural Studies Concentration consists of foundational coursework in architecture and provides opportunities for students to pursue complementary studies applicable to architectural practice and to careers in related disciplines. This concentration accommodates students interested in earning double-majors more easily than the other concentrations, as it includes only two years of bundled coursework.

Students who complete this concentration are eligible to apply to the three-year M.Arch. I Track of the Master of Architecture Program at UNC Charlotte.

### Admission Requirements
Admission into the four-year B.A. in Architecture program is highly competitive and requires a secondary application, in addition to the primary application required by the University. Details about the process may be found on the SoA's Undergraduate Admissions website.

#### Requirements for Freshmen and Transfers
- All University Admission Requirements (deadline: February 15)
- Minimum GPA: n/a (Freshmen); 2.0 (Transfers)
- Declaration of Major: Applicants indicate "Architecture" as their intended major when applying to UNC Charlotte.
- All SoA Secondary Application Requirements (deadline: February 15)

#### Requirements for Current UNC Charlotte Students
- Minimum GPA: 3.25
- All SoA Secondary Application Requirements (deadline: February 15)

#### Transferable Credit Hours
All transfer courses are automatically reviewed by the Office of Undergraduate Admissions. Students seeking to apply coursework taken at other institutions toward the Architecture major must provide official course descriptions, syllabi, and a portfolio of completed work for consideration. Those materials may be forwarded to soa-admissions@charlotte.edu, and they will be reviewed *following* the admissions process (students will be accepted into the program as first-years and may negotiate advanced placement only after they have accepted).

### Degree Requirements
#### General Education Courses (31-32 credit hours)
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information. Courses to meet these requirements are incorporated in the curriculum structure. However, as part of their General Education Requirements, students in the B.A. in Architecture program must complete the following:

MATH 1103 - Precalculus Mathematics for Science and Engineering (3)

#### Core Program (48 credit hours)

All students pursuing the B.A. in Architecture degree must complete a 48 credit-hour core sequence of courses designed to provide a solid understanding of fundamental issues, knowledge, and skills related to the practice, study, and understanding of architecture. The courses in the Core Program are:

ARCH 1101 - Architectural Design Studio I (6)
ARCH 1102 - Architectural Design Studio II (5)
ARCH 1201 - Writing Reading Thinking Architecture (3)
ARCH 1202 - Computational Methods (3)
ARCH 2101 - Architectural Design Studio III (5)
ARCH 2102 - Architectural Design Studio IV (5)
ARCH 4050 - Architecture Topics (1 to 3)
ARCH 4060 - History/Theory Topics (3)
ARCH 4201 - Architectural History I: Prehistory-1750 (3)
ARCH 4202 - Architectural History II: 1750-Present (3)
ARCH 4301 - Material and Assembly Principles (3)
ARCH 4302 - Environmental Systems Principles (3)

**Restricted Elective Courses (12 credit hours)**
All students pursuing the B.A. in Architecture degree with the Architectural Studies Concentration must complete 12 credit-hours of coursework in two fields related to the discipline, 6 credit-hours per department.

Additional courses in Architecture not included in the Core curriculum of the major may fulfill 6 credit-hours of this requirement.

Courses with the following course numbers may fulfill this requirement:
AFRS 2xxx/3xxx/4xxx
ANTH 2xxx/3xxx/4xxx
ARCH 4xxx
ARTx 1xxx/2xxx/3xxx/4xxx
ARTH 1xxxx/2xxx/3xxx/4xxx
CMET 1xxx/2xxx/3xxx/4xxx
COMM 1xxx/2xxx/3xxx/4xxx
DANC 1xxx/2xxx/3xxx/4xxx
ECON 1xxx/2xxx/3xxx/4xxx
ESCI 1xxx/2xxx/3xxx/4xxx
HLTH 1xxx/2xxx/3xxx/4xxx
HIST 1xxx/2xxx/3xxx/4xxx
GEOG 1xxx/2xxx/3xxx/4xxx
GEOL 1xxx/2xxx/3xxx/4xxx
GLST 1xxx/2xxx/3xxx/4xxx
JOUR 1xxx/2xxx/3xxx/4xxx
MATH 1xxx/2xxx/3xxx/4xxx
MUSC 1xxx/2xxx/3xxx/4xxx
PHIL 1xxx/2xxx/3xxx/4xxx
PHYS 1xxx/2xxx/3xxx/4xxx
POLS 1xxx/2xxx/3xxx/4xxx
PSYC 1xxx/2xxx/3xxx/4xxx
SOCY 1xxx/2xxx/3xxx/4xxx
SOWK 1xxx/2xxx/3xxx/4xxx
STAT 1xxx/2xxx/3xxx/4xxx
THEA 1xxx/2xxx/3xxx/4xxx
WRDS 1xxx/2xxx/3xxx/4xxx

Some courses may require prerequisites or other registration restrictions that prevent Architecture students from using them to fulfill this requirement.

Courses applied to satisfy General Education requirements may also be applied to satisfy this Restrictive Elective requirement.

Courses applied to satisfy the Restricted Elective requirement may also be applied toward a minor in another department if that department accepts them (the SoA does not determine which credits may be applied to minors in other departments).

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Advising
Undergraduate students are required to meet with the Academic Advisor at least once per semester. Students may also elect to meet with the Associate Director, in order to plan potential transitions into graduate programs.

## Progression Requirements
To graduate with a Bachelor of Arts in Architecture degree, an overall GPA of 2.0 must be achieved.

Students may earn a grade of D in only one studio course. Students who earn a second grade of D in any subsequent studio course must retake that more recent studio course, temporarily removing them from the standard course progression because of required co-requisites for studio courses.

Students are permitted one opportunity to retake an ARCH course, either because they failed the course or because they want to raise their grade in the course, as long as that opportunity abides by the guidelines of UNC Charlotte's Grade Replacement Policy.

The following circumstances result in a suspension from the Architecture program:

- Students who earn a grade of F in the same ARCH course twice.
- Students who earn a grade of F in any studio course after having earned a grade of D in a previous studio course.
- Students who are suspended from the University due to deficiencies in their academic performance or violations of University policies.
- Students who fail MATH 1103 Pre-Calculus Math twice.

Students who are suspended from the Architecture program may reenter the program after certain conditions are met, and those conditions vary according to the reason for the suspension from the program:

- Students suspended from the program who remain in good standing with the University may appeal to the School of Architecture for reinstatement by providing an explanation in writing of the causes for the suspension and actions being taken to

correct or overcome those causes, no later than seven days prior to the start of the semester following the suspension. A review committee composed of the Director, Associate Director, Undergraduate Program Director, and Academic Advisor will review the appeal. Reinstatement may be granted with certain conditions to which the student must abide, or it may be denied. During the appeals process, students will be unable to register for Architecture courses. Students whose appeals are denied by the review committee are removed from the program and may re-apply as a change-of-major applicant, following the same admissions policies and procedures as other UNC Charlotte students.

- Students suspended from the program as a result of being suspended from the University must appeal to the University for general reinstatement into a different department. If reinstated into the University, the student must reapply to the Architecture program as a change-of-major applicant and be reviewed by the admissions committee through the same process as other non-majors, who are reviewed in the Spring semester for admission into the program for the following Fall semester. The admissions cycle for Fall semester entry ends on May 1, and the admissions committee does not review change-of-major applicants for admission into the program for Spring or Summer semesters.
- Students readmitted to the University under the Forgiveness Policy remain suspended from the Architecture program. They must reapply to the Architecture program as a change-of-major applicant and be reviewed by the admissions committee through the same process as other non-majors, who are reviewed in the Spring semester for admission into the program for the following Fall semester. The admissions cycle for Fall semester entry ends on May 1, and the admissions committee does not review change-of-major applicants for admission into the program for Spring or Summer semesters.

### Special Policies or Requirements

#### *Residency Requirement*

All students pursuing the B.A. in Architecture degree must complete a minimum of 27 credit-hours in ARCH-designated courses while in residence at UNC Charlotte.

#### *Progression into Master of Architecture Program at UNC Charlotte*

Progression from the B.A. in Architecture program into the SoA's Master of Architecture program (M.Arch.) is not guaranteed. Applicants to the SoA's M.Arch program who have earned or will be earning the SoA's B.A. in Architecture degree must apply to UNC Charlotte's Graduate School, adhering to all policies and procedures of that process. Additionally, they must complete all admissions requirements of the M.Arch. program.

The School of Architecture Graduate Admissions Committee automatically endorses applicants to the SoA's M.Arch. program who earn the Bachelor of Art in Architecture from UNC Charlotte a minimum GPA of 3.5, both cumulative and in their major-based courses, at the conclusion of their penultimate or final semester (whichever is determined by time of the application). This policy applies to all tracks and concentrations of the B.A. in Architecture program, but no applicant is considered to be accepted into the M.Arch. program until/unless the applicant is accepted into the Graduate School. Applicants who meet this GPA standard need to submit only one (instead of three) letter of recommendation. All other admission requirements are still required.

Applicants who earn the B.A. in Architecture from UNC Charlotte with a GPA lower than 3.5 (either overall or in their major-based courses) will be evaluated by the SoA Admissions Committee alongside all other applicants.

Applicants who are accepted into the SoA's M.Arch. program after earning the B.A. in Architecture from UNC Charlotte are placed into one of three curricula, based on their earned concentration:

- Admitted applicants with the Architectural Studies Concentration are placed into the three-year M.Arch. I Track.
- Admitted applicants with the Pre-Professional Concentration are placed into the two-year M.Arch. II Track.
- Admitted applicants with the Practice Concentration are placed into the 12-month M.Arch. Advanced Standing Track.

Applicants may request or may be offered a different placement based on their experience and the strength of the application materials.

In some cases, progression from the B.A. in Architecture program into the M.Arch program (or into a specific track of the program) may be conditional upon completing additional coursework prior to beginning of the term to which an applicant is admitted.

## Bachelor of Arts in Architecture, *Practice Concentration*

The David R. Ravin School of Architecture (SoA) offers an integrated collection of undergraduate and graduate degrees that prepares students for rewarding careers in architecture and its related disciplines. The undergraduate Bachelor of Arts in Architecture (B.A. in Architecture) is a 4-year degree that requires a minimum of 120 credit hours, which are earned by completing General Education requirements (as mandated by the University, the Core Program of the B.A. in Architecture, and one of three concentrations. All students begin in the Core Program without a concentration and then declare a concentration (through discussions with their advisor) during the spring semester of their second-year in the program. Throughout the program, in order to streamline the progressive development of skills, methods, and ideas, courses are bundled into co-requisite packages that include a studio course coordinated with history, technology, and/or additional support courses.

The Practice Concentration is designed to provide the fastest and most intensive pathway to an accredited professional degree for students entering their first-year with minimal or no college-level credit. It requires four years of bundled coursework, including optional semester-long study abroad options in the final year.

Students who complete this concentration are eligible to apply to the twelve-month M.Arch. Advanced Standing Track of the Master of Architecture Program at UNC Charlotte (see important credit requirements below).

### Admission Requirements

Admission into the four-year B.A. in Architecture program is highly competitive and requires a secondary application, in addition to the primary application required by the University. Details about the process

may be found on the SoA's Undergraduate Admissions website.

**Requirements for Freshmen and Transfers**

- All University Admission Requirements (Deadline: February 15)
- Minimum GPA: n/a (Freshmen); 2.0 (Transfers)
- Declaration of Major: Applicants indicate "Architecture" as their intended major when applying to UNC Charlotte.
- All SoA Secondary Application Requirements (Deadline: February 15)

**Requirements for Current UNC Charlotte Students**

- Minimum GPA: 3.25
- All SoA Secondary Application Requirements (Deadline: February 15)

**Transferable Credit Hours**

All transfer courses are automatically reviewed by the Office of Undergraduate Admissions. Students seeking to apply coursework taken at other institutions toward the Architecture major must provide official course descriptions, syllabi, and a portfolio of completed work for consideration. Those materials may be forwarded to soa-admissions@charlotte.edu, and they will be reviewed *following* the admissions process (students will be accepted into the program as first-years and may negotiate advanced placement only after they have accepted).

## Degree Requirements

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information. Courses to meet these requirements are incorporated in the curriculum structure. However, as part of their General Education Requirements, students in the B.A. in Architecture program must complete the following:

MATH 1103 - Precalculus Mathematics for Science and Engineering (3)

**Core Program (48 credit hours)**

All students pursuing the B.A. in Architecture degree must complete a 48 credit-hour core sequence of courses designed to provide a solid understanding of fundamental issues, knowledge, and skills related to the practice, study, and understanding of architecture. The courses in the Core Program are:

ARCH 1101 - Architectural Design Studio I (6)
ARCH 1102 - Architectural Design Studio II (5)
ARCH 1201 - Writing Reading Thinking Architecture (3)
ARCH 1202 - Computational Methods (3)
ARCH 2101 - Architectural Design Studio III (5)
ARCH 2102 - Architectural Design Studio IV (5)
ARCH 4050 - Architecture Topics (1 to 3)
ARCH 4060 - History/Theory Topics (3)
ARCH 4201 - Architectural History I: Prehistory-1750 (3)
ARCH 4202 - Architectural History II: 1750-Present (3)
ARCH 4301 - Material and Assembly Principles (3)
ARCH 4302 - Environmental Systems Principles (3)

**Practice Concentration Courses (36 credit hours)**

The Practice Concentration is a pathway designed for students intending to pursue the SoA's twelve-month accredited professional degree (the M.Arch. Advanced Standing Curriculum). This concentration provides the fastest and most intensive pathway to an accredited degree. This concentration requires the following additional advanced coursework:

ARCH 3101 - Architectural Design Studio V (6)
ARCH 3102 - Architectural Design Studio VI (6)
ARCH 4070 - Computational Topics (3)
ARCH 4101 - Architectural Design Studio VII: Advanced Building Design (6)
ARCH 4102 - Architectural Design Studio VIII: Topical (6)
ARCH 4203 - Architectural History III: Survey of Contemporary Theory (1950-Present) (3)
ARCH 4303 - Structural Principles (3)
ARCH 4304 - Structural Systems (3)

**Additional Elective (3 credit hours)**

One additional elective (ARCH 4050, ARCH 4060, or ARCH 4070) is required for this concentration.
ARCH 4050 - Architecture Topics (3)
ARCH 4060 - History/Theory Topics (3)
ARCH 4070 - Computational Topics (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

**Note:** Students intending to enroll in UNC Charlotte's twelve-month M.Arch. AS Curriculum must earn, in addition to all requirements of this concentration, 128 credit-hours in total during their undergraduate studies in order to be eligible for that graduate program. Although the B.A. in Architecture degree requires only 120 credits, the School of Architecture's M.Arch. Admissions Committee will review transcripts to ensure that all applicants admitted to the AS Curriculum have earned 128 credit-hours prior to the start of their enrollment in the program.

## Advising

Undergraduate students are required to meet with the Academic Advisor at least once per semester. Students may also elect to meet with the Associate Director, in order to plan potential transitions into graduate programs.

## Progression Requirements

To graduate with a Bachelor of Arts in Architecture degree, an overall GPA of 2.0 must be achieved.

Students may earn a grade of D in only one studio course. Students who earn a second grade of D in any subsequent studio course must retake

that more recent studio course, temporarily removing them from the standard course progression because of required co-requisites for studio courses.

Students are permitted one opportunity to retake an ARCH course, either because they failed the course or because they want to raise their grade in the course, as long as that opportunity abides by the guidelines of UNC Charlotte's Grade Replacement Policy.

The following circumstances result in a suspension from the Architecture program:

- Students who earn a grade of F in the same ARCH course twice.
- Students who earn a grade of F in any studio course after having earned a grade of D in a previous studio course.
- Students who are suspended from the University due to deficiencies in their academic performance or violations of University policies.
- Students who fail MATH 1103 Pre-Calculus Math twice.

Students who are suspended from the Architecture program may reenter the program after certain conditions are met, and those conditions vary according to the reason for the suspension from the program:

- Students suspended from the program who remain in good standing with the University may appeal to the School of Architecture for reinstatement by providing an explanation in writing of the causes for the suspension and actions being taken to correct or overcome those causes, no later than seven days prior to the start of the semester following the suspension. A review committee composed of the Director, Associate Director, Undergraduate Program Director, and Academic Advisor will review the appeal. Reinstatement may be granted with certain conditions to which the student must abide, or it may be denied. During the appeals process, students will be unable to register for Architecture courses. Students whose appeals are denied by the review committee are removed from the program and may re-apply as a change-of-major applicant, following the same admissions policies and procedures as other UNC Charlotte students.
- Students suspended from the program as a result of being suspended from the University must appeal to the University for general reinstatement into a different department. If reinstated into the University, the student must reapply to the Architecture program as a change-of-major applicant and be reviewed by the admissions committee through the same process as other non-majors, who are reviewed in the Spring semester for admission into the program for the following Fall semester. The admissions cycle for Fall semester entry ends on May 1, and the admissions committee does not review change-of-major applicants for admission into the program for Spring or Summer semesters.
- Students readmitted to the University under the Forgiveness Policy remain suspended from the Architecture program. They must reapply to the Architecture program as a change-of-major applicant and be reviewed by the admissions committee through the same process as other non-majors, who are reviewed in the Spring semester for admission into the program for the following Fall semester. The admissions cycle for Fall semester entry ends on May 1, and the admissions committee does not review change-of-major applicants for admission into the program for Spring or Summer semesters.

## Special Policies or Requirements

### *Residency Requirement*

All students pursuing the B.A. in Architecture degree must complete a minimum of 27 credit-hours in ARCH-designated courses while in residence at UNC Charlotte.

### *Progression into Master of Architecture Program at UNC Charlotte*

Progression from the B.A. in Architecture program into the SoA's Master of Architecture program (M.Arch.) is not guaranteed. Applicants to the SoA's M.Arch program who have earned or will be earning the SoA's B.A. in Architecture degree must apply to UNC Charlotte's Graduate School, adhering to all policies and procedures of that process. Additionally, they must complete all admissions requirements of the M.Arch. program.

The School of Architecture Graduate Admissions Committee automatically endorses applicants to the SoA's M.Arch. program who earn the Bachelor of Art in Architecture from UNC Charlotte a minimum GPA of 3.5, both cumulative and in their major-based courses, at the conclusion of their penultimate or final semester (whichever is determined by time of the application). This policy applies to all tracks and concentrations of the B.A. in Architecture program, but no applicant is considered to be accepted into the M.Arch. program until/unless the applicant is accepted into the Graduate School. Applicants who meet this GPA standard need to submit only one (instead of three) letter of recommendation. All other admission requirements are still required.

Applicants who earn the B.A. in Architecture from UNC Charlotte with a GPA lower than 3.5 (either overall or in their major-based courses) will be evaluated by the SoA Admissions Committee alongside all other applicants.

Applicants who are accepted into the SoA's M.Arch. program after earning the B.A. in Architecture from UNC Charlotte are placed into one of three curricula, based on their earned concentration:

- Admitted applicants with the Architectural Studies Concentration are placed into the three-year M.Arch. I Track.
- Admitted applicants with the Pre-Professional Concentration are placed into the two-year M.Arch. II Track.
- Admitted applicants with the Practice Concentration are placed into the 12-month M.Arch. Advanced Standing Track.

Applicants may request or may be offered a different placement based on their experience and the strength of the application materials.

In some cases, progression from the B.A. in Architecture program into the M.Arch program (or into a specific track of the program) may be conditional upon completing additional coursework prior to beginning of the term to which an applicant is admitted.

# Bachelor of Arts in Architecture, *Pre-Professional Concentration*

The undergraduate Bachelor of Arts in Architecture (B.A. in Architecture) is a 4-year degree that requires a minimum of 120 credit hours. This

degree offers three concentrations, one of which must be completed to earn this degree. Students work with their advisor to declare a concentration during the spring semester of their second year in the program. Students who wish to become registered architects must also earn their professional degree, the Master of Architecture (M.Arch), from a program accredited by the National Architectural Accrediting Board (NAAB). All three concentrations may lead to professional licensure, and pathways to that goal vary depending on performance and the specific concentration earned in this degree. More information on progressing into graduate programs is available below, see Graduate Opportunities at UNC Charlotte heading).

## Admission Requirements

Admission into the four-year B.A. in Architecture program is highly competitive and requires a secondary application, in addition to the primary application required by the University. Details about the process may be found on the SoA's Undergraduate Admissions website.

### Requirements for Freshmen and Transfers

- All University Admission Requirements (Deadline: February 15)
- Minimum GPA: n/a (Freshmen); 2.0 (Transfers)
- Declaration of Major: Applicants indicate "Architecture" as their intended major when applying to UNC Charlotte.
- All SoA Secondary Application Requirements (Deadline: February 15)

### Requirements for Current UNC Charlotte Students

- Minimum GPA: 3.25
- All SoA Secondary Application Requirements (Deadline: February 15)

### Transferable Credit Hours

All transfer courses are automatically reviewed by the Office of Undergraduate Admissions. Students seeking to apply coursework taken at other institutions toward the Architecture major must provide official course descriptions, syllabi, and a portfolio of completed work for consideration. Those materials may be forwarded to soa-admissions@charlotte.edu, and they will be reviewed *following* the admissions process (students will be accepted into the program as first-years and may negotiate advanced placement only after they have accepted).

## Degree Requirements

### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information. Courses to meet these requirements are incorporated in the curriculum structure. However, as part of their General Education Requirements, students in the B.A. in Architecture program must complete the following:

MATH 1103 - Precalculus Mathematics for Science and Engineering (3)

### Core Program (48 credit hours)

All students pursuing the B.A. in Architecture degree at the SoA must complete a 48 credit-hour core sequence of courses designed to provide a solid understanding of fundamental issues, knowledge, and skills related to the practice, study, and understanding of architecture. The courses in the Core Program are:

ARCH 1101 - Architectural Design Studio I (6)
ARCH 1102 - Architectural Design Studio II (5)
ARCH 1201 - Writing Reading Thinking Architecture (3)
ARCH 1202 - Computational Methods (3)
ARCH 2101 - Architectural Design Studio III (5)
ARCH 2102 - Architectural Design Studio IV (5)
ARCH 4050 - Architecture Topics (1 to 3)
ARCH 4060 - History/Theory Topics (3)
ARCH 4201 - Architectural History I: Prehistory-1750 (3)
ARCH 4202 - Architectural History II: 1750-Present (3)
ARCH 4301 - Material and Assembly Principles (3)
ARCH 4302 - Environmental Systems Principles (3)

### Pre-Professional Courses (18 credit hours)

This concentration requires the following additional advanced coursework:

ARCH 3101 - Architectural Design Studio V (5)
ARCH 3102 - Architectural Design Studio VI (5)
ARCH 4203 - Architectural History III: Survey of Contemporary Theory (1950-Present) (3)
ARCH 4303 - Structural Principles (3)

### Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Advising

Undergraduate students are required to meet with the Academic Advisor at least once per semester. Students may also elect to meet with the Associate Director, in order to plan potential transitions into graduate programs.

## Progression Requirements

To graduate with a Bachelor of Arts in Architecture degree, an overall GPA of 2.0 must be achieved.

Students may earn a grade of D in only one studio course. Students who earn a second grade of D in any subsequent studio course must retake that more recent studio course, temporarily removing them from the standard course progression because of required co-requisites for studio courses.

Students are permitted one opportunity to retake an ARCH course, either because they failed the course or because they want to raise their grade in the course, as long as that opportunity abides by the guidelines of UNC Charlotte's Grade Replacement Policy.

The following circumstances result in a suspension from the Architecture program:

- Students who earn a grade of F in the same ARCH course twice.
- Students who earn a grade of F in any studio course after having earned a grade of D in a previous studio course.
- Students who are suspended from the University due to deficiencies in their academic performance or violations of University policies.
- Students who fail MATH 1103 Pre-Calculus Math twice.

Students who are suspended from the Architecture program may reenter the program after certain conditions are met, and those conditions vary according to the reason for the suspension from the program:

- Students suspended from the program who remain in good standing with the University may appeal to the School of Architecture for reinstatement by providing an explanation in writing of the causes for the suspension and actions being taken to correct or overcome those causes, no later than seven days prior to the start of the semester following the suspension. A review committee composed of the Director, Associate Director, Undergraduate Program Director, and Academic Advisor will review the appeal. Reinstatement may be granted with certain conditions to which the student must abide, or it may be denied. During the appeals process, students will be unable to register for Architecture courses. Students whose appeals are denied by the review committee are removed from the program and may re-apply as a change-of-major applicant, following the same admissions policies and procedures as other UNC Charlotte students.
- Students suspended from the program as a result of being suspended from the University must appeal to the University for general reinstatement into a different department. If reinstated into the University, the student must reapply to the Architecture program as a change-of-major applicant and be reviewed by the admissions committee through the same process as other non-majors, who are reviewed in the Spring semester for admission into the program for the following Fall semester. The admissions cycle for Fall semester entry ends on May 1, and the admissions committee does not review change-of-major applicants for admission into the program for Spring or Summer semesters.
- Students readmitted to the University under the Forgiveness Policy remain suspended from the Architecture program. They must reapply to the Architecture program as a change-of-major applicant and be reviewed by the admissions committee through the same process as other non-majors, who are reviewed in the Spring semester for admission into the program for the following Fall semester. The admissions cycle for Fall semester entry ends on May 1, and the admissions committee does not review change-of-major applicants for admission into the program for Spring or Summer semesters.

### Special Policies or Requirements

***Residency Requirement***

All students pursuing the B.A. in Architecture degree must complete a minimum of 27 credit-hours in ARCH-designated courses while in residence at UNC Charlotte.

***Progression into Master of Architecture Program at UNC Charlotte***

Progression from the B.A. in Architecture program into the SoA's Master of Architecture program (M.Arch.) is not guaranteed. Applicants to the SoA's M.Arch program who have earned or will be earning the SoA's B.A. in Architecture degree must apply to UNC Charlotte's Graduate School, adhering to all policies and procedures of that process. Additionally, they must complete all admissions requirements of the M.Arch. program.

The School of Architecture Graduate Admissions Committee automatically endorses applicants to the SoA's M.Arch. program who earn the Bachelor of Art in Architecture from UNC Charlotte a minimum GPA of 3.5, both cumulative and in their major-based courses, at the conclusion of their penultimate or final semester (whichever is determined by time of the application). This policy applies to all tracks and concentrations of the B.A. in Architecture program, but no applicant is considered to be accepted into the M.Arch. program until/unless the applicant is accepted into the Graduate School. Applicants who meet this GPA standard need to submit only one (instead of three) letter of recommendation. All other admission requirements are still required.

Applicants who earn the B.A. in Architecture from UNC Charlotte with a GPA lower than 3.5 (either overall or in their major-based courses) will be evaluated by the SoA Admissions Committee alongside all other applicants.

Applicants who are accepted into the SoA's M.Arch. program after earning the B.A. in Architecture from UNC Charlotte are placed into one of three curricula, based on their earned concentration:

- Admitted applicants with the Architectural Studies Concentration are placed into the three-year M.Arch. I Track.
- Admitted applicants with the Pre-Professional Concentration are placed into the two-year M.Arch. II Track.
- Admitted applicants with the Practice Concentration are placed into the 12-month M.Arch. Advanced Standing Track.

Applicants may request or may be offered a different placement based on their experience and the strength of the application materials.

In some cases, progression from the B.A. in Architecture program into the M.Arch program (or into a specific track of the program) may be conditional upon completing additional coursework prior to beginning of the term to which an applicant is admitted.

## Minor in Architectural History and Heritage

The Minor in Architectural History and Heritage is open to students of any major and requires the completion of 18 credit hours of coursework. The requirements vary for students in the BA in Architecture majors and non-architecture majors.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

See University Admission Requirements

### Eligibility

To pursue the minor, current UNC Charlotte students in good standing (both Architecture majors and non-Architecture majors) are asked to complete this form:
(https://docs.google.com/forms/d/e/1FAIpQLSftXkARnOp8GixlklqG4GmvBvJTtsklm-_VeQ3Yqq9jdcFxyg/viewform ), which will be processed

by the Academic Advisor for Architecture. There is no specific GPA requirement, but academic records will be reviewed by the leadership of the School of Architecture for evidence of academic success in this program, and the Academic Advisor for Architecture will meet with interested students to confirm the viability of completing the minor alongside their major.

## Minor Requirements for Architecture Majors

**Required Courses (12 credit hours)**
Students in the B.A. in Architecture program must take ARCH 4203, which may be double-counted toward their concentration if their concentration requires it.

They must also take both methodology courses (ARCH 4600 and ARCH 4613).

The ARCH 4060 History/Theory Topic required for their concentration will be double-counted here toward these requirements.

ARCH 4060 - History/Theory Topics (3)
ARCH 4203 - Architectural History III: Survey of Contemporary Theory (1950-Present) (3)
ARCH 4600 - Architectural History and Criticism Methodologies (3)
ARCH 4613 - Introduction to Heritage Studies (3)

**Elective Courses (6 credit hours)**
Students in the BA in Architecture program must also take 6 additional hours of coursework outside of the department from the courses listed below or a substitution approved by the Academic Advisor.
AFRS 2105 - Black Images in the Media in the U.S. (3)
AFRS 2156 - African Civilization (3)
AFRS 2206 - African Literature, Music, and Art (3)
AFRS 3121 - Contemporary African Art (3)
ANTH 2050 - Topics in Archaeology (3)
ANTH 2125 - Urban Anthropology (3)
ANTH 2151 - Introduction to Archaeology (3)
ANTH 2152 - New World Archaeology (3)
ANTH 2153 - Historic Archaeology (3)
ARTH 2001 - Topics in Art History (3)
ARTH 2003 - Pre-Columbian Art (3)
ARTH 2110 - Contemporary Art History (3)
ARTH 2140 - Medieval Art (3)
ARTH 3001 - Topics in Art History (1 to 3)
ARTH 3121 - Contemporary African Art (3)
ARTH 3318 - Mexica (Aztec) Art (3)
ARTH 3320 - Ancient Egyptian and Near Eastern Art (3)
ARTH 3322 - Ancient Greek Art (3)
ARTH 3323 - Ancient Roman Art I (3)
ARTH 3328 - West African Art and Display (3)
ARTH 3350 - Northern Renaissance Art (3)
ARTH 3351 - Italian Renaissance Art (3)
ARTH 3360 - Northern Baroque Art (3)
ARTH 3381 - Modernism (3)
ARTH 3393 - History of Photography (3)
ARTH 3395 - African American Art (3)
GEOG 2121 - Introduction to Development Studies (3)
GEOG 2165 - Patterns of World Urbanization (3)
GEOG 2200 - Introduction to Urban Studies (3)
GEOG 3100 - The City and Its Region (3)
GEOG 3110 - Urban Political Geography (3)
GEOG 3115 - Urban Transportation Problems (3)
GEOG 3200 - Land Use Planning (3)
GEOG 3205 - Internal Structure of the City (3)
GEOG 4209 - Small Town Planning (3)
HIST 2004 - Topics in Applied History (3)
HIST 2297 - History of North Carolina, 1500 to the Present (3)
HIST 3004 - Topics in Applied History (3)
HIST 3010 - Non-Western History and Culture through Film (3)
HIST 3011 - History and Culture through Film (3)
HIST 3190 - Slavery, Racism, and Colonialism in the African Diaspora (3)
HIST 3212 - History of the South to 1865 (3)
HIST 3213 - History of the South since 1865 (3)
HIST 3215 - Southerners (3)
HIST 3218 - Racial Violence, Colonial Times to Present (3)
HIST 3239 - African American Music: History and Culture (3)
HIST 3275 - American Lives (3)
HIST 3280 - Blacks in Urban America (3)
HIST 3281 - American Cities (3)
HIST 3381 - Introduction to Museums and Historic Sites (3)
HIST 3382 - Historic Preservation (3)
INTL 3112 - Globalization and Culture (3)
INTL 3116 - Cultures and Conflicts (3)
INTL 3127 - Global Media (3)
JOUR 3163 - Visual Communication in Media (3)
LTAM 2117 - Cultures of the Caribbean (3)
LTAM 3220 - The Caribbean from Slavery to Independence (3)
LTAM 3260 - Slavery, Racism, and Colonialism in the African Diaspora (3)
LTAM 3313 - Pre-Columbian Art (3)
LTAM 4116 - Culture and Conflict in the Amazon (3)
LTAM 4317 - Topics in Hispanic Culture and Civilization (3)
MUSC 4298 - Jazz History (3)
PHIL 3231 - Aesthetics (3)
SOCY 2112 - Popular Culture (3)
WGST 2110 - Women and the Media (3)
WGST 3110 - Gender and Communication (3)

## Minor Requirements for Non-Architecture Majors

**Required Courses (12 credit hours)**

Non-architecture majors must take four specific Architecture courses.

*Two of the three Architectural history surveys offered by the Architecture program (6 credit hours):*
ARCH 4201 - Architectural History I: Prehistory-1750 (3)
ARCH 4202 - Architectural History II: 1750-Present (3)
ARCH 4203 - Architectural History III: Survey of Contemporary Theory (1950-Present) (3)

*Both methodology courses:*
ARCH 4600 - Architectural History and Criticism Methodologies (3)
ARCH 4613 - Introduction to Heritage Studies (3)

**Elective Courses (6 credit hours)**
Non-architecture majors must also take 6 additional hours of ARCH

4060. All 6 hours may be counted towards the Minor in Architectural History and Heritage and another major or minor.

ARCH 4060 - History/Theory Topics (3) *(repeated with change of topic to reach 6 total credit hours)*

### Total = 18 Credit Hours

### Progression Requirements
Students must maintain a minimum GPA of 3.0 in all courses counted toward the minor.

The minor must be completed before a student graduates with their major program of study.

# Department of
# Art and Art History

art.charlotte.edu

## Undergraduate Programs

- B.A. in Art
  - Art Education
- B.F.A. in Art
  - 3D Interdisciplinary Studies: Art in Space
  - Art Education
  - Digital Media and Game Design
  - Illustration
  - Painting
  - Photography
  - Print Media
- B.F.A. in Graphic Design
- B.A. in Art History
  - Honors Program
- Minor in Art History

The Department of Art and Art History offers a diverse and comprehensive program leading to a Bachelor of Arts (a liberal arts degree in Studio Art), a Bachelor of Fine Arts in Art (a professional degree with concentrations in Studio Art or Art Education), a Bachelor of Fine Arts in Graphic Design, and a Bachelor of Arts in Art History. Students pursuing the B.F.A. in Art are required to select a studio concentration in 3D Interdisciplinary Studies: Art in Space, Digital Media, Illustration, Painting, Photography, or Print Media; or an Art Education concentration leading to a K-12 Licensure. Students may also earn a Minor in Art History.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

The degree programs are structured upon the following premises:

- Students need a basic level of skill and aesthetic sensitivity in a variety of studio disciplines.
- Students need an awareness of historical and theoretical knowledge in the arts.
- Students need in-depth knowledge to critically synthesize formal and conceptual aspects of work in a specific area of study.

Studio Art and Graphic Design courses are open to Art and Graphic Design majors only. Most Art History courses are open to any major in the department.

### Transfer Credit
All transfer courses are automatically reviewed by the Office of Undergraduate Admissions. Students seeking to appeal the official transfer designations for ARTx courses must provide the Department Academic Advisor with copies of the official course descriptions and a

syllabus for each course requested for consideration. Portfolios of creative work from each of the individual studio courses may also be required.

# Bachelor of Arts in Art

The Bachelor of Arts (B.A.) in Art requires 120 credit hours and is recommended for those interested in a double major, or for those intending to pursue a career in a discipline other than art. It is not intended for students interested in an in-depth study in a single studio area.

## Admission Requirements

### New Freshmen and Transfer Students

- See University Admission Requirements
- *Minimum GPA:* N/A
- *Declaration of Major*: Submit a digital portfolio of work for review. Check the department website for deadlines and FAQs on submission requirements. The department accepts new students from these groups for Fall semesters only. Students who are not admitted may re-submit their portfolio the following year. Only one re-submission is allowed.
- *Transferable Credit Hours*: All transfer courses are automatically reviewed by the Office of Undergraduate Admissions. Students seeking to appeal the official transfer designations for ARTx courses must provide the Department Academic Advisor with copies of the official course descriptions and a syllabus for each course requested for consideration. Portfolios of creative work from each of the individual studio courses may also be required.

### Currently Enrolled Students

- Minimum Cumulative GPA: 2.0
- Submit a digital portfolio of work for review. Check the department website for deadlines and FAQs on submission requirements. The department accepts new students from these groups for Fall semesters only. Students who are not admitted may re-submit their portfolio the following year. Only one re-submission is allowed.

## Degree Requirements

The Bachelor of Fine Arts (B.F.A.) in Art provides in-depth study with several concentration options; however, students may choose only one concentration area to pursue unless the second concentration area is Art Education (leading to K-12 licensure). If a student is pursuing a second major in Graphic Design, a maximum of 24 credits may be used towards Art major or concentration requirements. Students may take a maximum of 3 studio courses per semester without an approved academic petition to enroll in a 4th studio course.

### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

Students intending to earn either the B.F.A. in Art or the B.A. in Art should take three ARTB 120x courses, and one ARTH course (ARTH 1211, ARTH 1212, or ARTH 2110) in the first semester of their Freshman year. All of the General Education courses should be organized around the Art requirements. It is usually not possible to graduate in four years without taking this number of Art courses right away. Prerequisite sequencing dictates the time to graduation, and all students should become thoroughly familiar with the course descriptions.

### Foreign Language Requirement (0-8 credit hours)

Students in this major within the College of Arts + Architecture are required to demonstrate proficiency in the language of their choice through the 1202 level. For details, refer to the College of Arts + Architecture Foreign Language Requirements at the beginning of this section.

### Major Courses (42 credit hours)

### Basic Foundation Studios (15 credit hours)

ARTB 1201 - 2D Design (3)
ARTB 1202 - 3D Design (3)
ARTB 1203 - Drawing 1 (3)
ARTB 1204 - Digital Foundations (3)
ARTB 1206 - First Year Seminar (3)

### Elective Studio Courses (15 credit hours)

*Select five of the following. Students must successfully complete the Basic Foundation Studios courses listed above to enroll in upper-level courses. At least 9 credit hours must be taken at UNC Charlotte.*

ARTx any 2000-level 2D studio course*
ARTx any 2000-level 3D studio course**
ARTx any 2000- or 3000-level studio course
ARTx any 2000- or 3000-level studio course
ARTx any 2000- or 3000-level studio course

***Options for 2000-Level 2D Courses:*
*ARTD 2134 - Figure Drawing I (3)*
*ARTD 2139 - Drawing II (3)*
*ARTG 2181 - Graphic Design I (3)*
*ARTL 2186 - Illustration I (3)*
*ARTM 2105 - 4D (3)*
*ARTP 2131 - Painting I (3)*
*ARTR 2161 - Photo-Mechanical Print Media (3)*
*ARTR 2162 - Drawing/Expression in Print Media (3)*
*ARTT 2191 - Photographic Media I (3)*

***Options for 2000-Level 3D Courses:*
*ARTC 2171 - Ceramic Handbuilding (3)*
*ARTC 2172 - Ceramic Wheel 1 (3)*
*ARTF 2151 - Fibers 1 (3)*
*ARTZ 2104 - Installation Art (3)*
*ARTZ 2141 Methods and Materials in Sculpture*
*ARTZ 2306 - Introduction to 3D Modeling and Digital Fabrication (3)*

### Art History Courses (9 credit hours)

ARTH 1211 - Art History Survey 1 (3)
ARTH 1212 - Art History Survey 2 (3)
ARTH 2110 - Contemporary Art History (3)

### Senior Seminar (3 credit hours)

ARTA 4600 - Senior Seminar (3)*

**This Senior level course should be taken with the last Elective Studio during a student's last one or two semesters of study at UNC Charlotte.*

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Academic Advising
All Art, Graphic Design, and Art History majors are required to meet with the Academic Advisor in the Department of Art and Art History each semester. Students will not be able to register for any course at UNC Charlotte without attending the mandatory advising meetings. The Academic Advisor is available year-round.

Career mentoring in studio, graphic design, art history, and art education is offered by individual faculty members who are active professionals in those areas of study. Contact is best done by email or telephone. Most professors are available for appointments from the first day of classes until the last day of classes each Fall and Spring semester. Requirements for degrees and minors, as well as 4-year B.F.A. calendars, are available in the Department of Art and Art History office and online at art.charlotte.edu.

Students seeking to confirm that General Education graduation requirements are met should use DegreeWorks in My UNC Charlotte (my.charlotte.edu). Those seeking confirmation of Art requirements must contact the Academic Advisor.

## Progression Requirements
To graduate with a B.A. in Art, students must achieve a minimum GPA of 2.0 in all courses required for the major.

## Honors Program
For details about the Honors Program in Arts + Architecture, see the beginning of the College of Arts + Architecture section.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

Students intending to earn either the B.F.A. in Art or the B.A. in Art should take three ARTB 120x courses, and one ARTH course (ARTH 1211, ARTH 1212, or ARTH 2110) in the first semester of their Freshman year. All of the General Education courses should be organized around the Art requirements. It is usually not possible to graduate in four years without taking this number of Art courses right away. Prerequisite sequencing dictates the time to graduation, and all students should become thoroughly familiar with the course descriptions.

# Bachelor of Arts in Art
## *with Concentration in Art Education*
The Department of Art and Art History offers a program of Art and Education courses to prepare students for K-12 Art Education licensure in North Carolina. Students should contact the Arts Education Specialist as soon as possible for advising. A decision later than freshman year to seek licensure may result in a delayed graduation date.

All program-level Admissions and Progression Requirements are in addition to the University of North Carolina at Charlotte Admission Requirements.

## Admission Requirements
**New Freshmen and Transfer Students**
- See University Admission Requirements
- Minimum GPA: N/A
- *Declaration of Major*: Submit a digital portfolio of work for review. Check the department website for deadlines and FAQs on submission requirements. The department accepts new students from these groups for Fall semesters only. Students who are not admitted may re-submit their portfolio the following year. Only one re-submission is allowed.
- *Transferable Credit Hours*: All transfer courses are automatically reviewed by the Office of Undergraduate Admissions. Students seeking to appeal the official transfer designations for ARTx courses must provide the Department Academic Advisor with copies of the official course descriptions and a syllabus for each course requested for consideration. Portfolios of creative work from each of the individual studio courses may also be required.

**Currently Enrolled Students**
- Minimum Cumulative GPA: 2.0
- Submit a digital portfolio of work for review. Check the department website for deadlines and FAQs on submission requirements. The department accepts new students from these groups for Fall semesters only. Students who are not admitted may re-submit their portfolio the following year. Only one re-submission is allowed.
- To be formally admitted to the B.A. in Art with a concentration in Art Education, students must achieve the following:
- Minimum cumulative GPA of 2.7
- Pre-Major/Prerequisite Courses:
    - ARTE 2100 with grade of C or above
    - EDUC 1511 with grade of C or above
- Passing scores on Praxis Core (or prove exemption via test scores) Application to Teacher Education (includes a clear background check and signed professional dispositions statement)

## Degree Requirements
**College Prospect for Success Course (2 credit hours)**
*All new freshmen in the College of Arts + Architecture must take the following:*

COAA 1101 - Student Success in Architecture, Art, Performance, and Design (2)

**Foreign Language Requirement (0-8 credit hours)**
All students who earn a degree within the College of Arts + Architecture are required to demonstrate proficiency in the language of their choice through the 1202 level. Proficiency can be demonstrated in one of the following ways:

- Completing the required coursework at UNC Charlotte
- Completing three years of the same foreign language in high school through level three
- Achieving a satisfactory score on the foreign languages placement test (in Spanish, French, or German)
- Through approved transfer or transient credit earned at other accredited institutions
- A combination of the above methods (e.g., placing out of or earning transfer or transient credit for 1201 and completing the 1202 course, completing 1201 and placing out of or earning transfer or transient credit for 1202)

## Major Courses (42 credit hours)

**Basic Foundation Studios (15 credit hours)**

ARTB 1201 - 2D Design (3)
ARTB 1202 - 3D Design (3)
ARTB 1203 - Drawing I (3)
ARTB 1204 - Digital Foundations (3)
ARTB 1206 - First Year Seminar (3)

**Elective Studio Courses (15 credit hours)**
*Select five of the following. Students must successfully complete the Basic Foundation Studios courses listed above to enroll in upper-level courses. At least 9 credit hours must be taken at UNC Charlotte.*

ARTx any 2000-level 2D studio course *
ARTx any 2000-level 3D studio course **
ARTx any 2000- or 3000-level studio course
ARTx any 2000- or 3000-level studio course
ARTx any 2000- or 3000-level studio course

***Options for 2000-Level 2D Courses**
ARTD 2134 - Figure Drawing I (3)
ARTD 2139 - Drawing II (3)
ARTG 2181 - Graphic Design I (3)
ARTL 2186 - Illustration I (3)
ARTM 2105 - 4D (3)
ARTP 2131 - Painting I (3)
ARTR 2161 - Photo-Mechanical Print Media (3)
ARTR 2162 - Drawing/Expression in Print Media (3)
ARTT 2191 - Photographic Media I (3)

***Options for 2000-Level 3D Courses**
ARTC 2171 - Ceramics Handbuilding (3)
ARTC 2172 - Ceramics Wheel I (3)
ARTF 2151 - Fibers I (3)
ARTZ 2104 - Installation Art (3)
ARTZ 2141 - Methods and Materials in Sculpture (3)
ARTZ 2306 - Introduction to 3D Modeling and Digital Fabrication (3)

**Art History Courses (9 credit hours)**
ARTH 1211 - Art History Survey I (3)
ARTH 1212 - Art History Survey II (3)
ARTH 2110 - Contemporary Art History (3)

**Senior Seminar (3 credit hours)**
ARTA 4600 - Senior Seminar (3)

*Note:* This Senior level course should be taken with the last Elective Studio during a student's last one or two semesters of study at UNC Charlotte.

## Concentration Courses (35-36 credit hours)

**Pre-Art Education Concentration Courses**
ARTE 2100 - Artists as Teachers (3)
EDUC 1511 - Local Social Science: Public Education and Schooling in the U.S. (3 to 4)

**Art Education Concentration Courses**
SPED 2100 - Exceptionality in Schools and Society (3)
ELED 3120 - The Elementary School Child (3)
or MDLG 3130 - The Early Adolescent Learner (3)
or SECD 4140 - Adolescence and Secondary Schools (3)
ARTE 3121 - Elementary Art Methods (3)
ARTE 4122 - Secondary Art Methods (3)
ARTE 4125 - Creativity and Mindfulness (3)
EDUC 4290 - Inclusion of Students with Varied Learning Needs (3)
or MDSK 3100 - The Connected Classroom (3)
or MDSK 4210 - Classroom Leadership (2)
ARTE 4466 - Art Education Year-Long Internship (0)
ARTE 4467 - Student Teaching in Art (12)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Academic Advising

All Art, Graphic Design, and Art History majors are required to meet with the Academic Advisor in the Department of Art and Art History each semester. Students will not be able to register for any course at UNC Charlotte without attending the mandatory advising meetings. The Academic Advisor is available year-round.

Career mentoring in studio, graphic design, art history, and art education is offered by individual faculty members who are active professionals in those areas of study. Contact is best done by email or telephone. Most professors are available for appointments from the first day of classes until the last day of classes each Fall and Spring semester. Requirements for degrees and minors, as well as 4-year B.F.A. calendars, are available in the Department of Art and Art History office and online at art.charlotte.edu.

Students seeking to confirm that General Education graduation

requirements are met should use the automated DegreeWorks system online in My UNC Charlotte. Those seeking confirmation of Art requirements must contact the Academic Advisor.

### Progression Requirements

To progress to student teaching, students must earn a minimum 2.75 GPA in all Art and Education courses and a minimum 2.5 cumulative GPA. A minimum grade of C is required for all major courses. Additionally, students must earn a grade of P in Student Teaching and a minimum edTPA score of 38 to be recommended for licensure.

### Honors Program

For details about the Arts + Architecture Honors Program, visit the AAHP program page.

## Bachelor of Fine Arts in Art

## *with Concentration in 3D Interdisciplinary Studies: Art in Space*

This Bachelor of Fine Arts (B.F.A.) in Art provides in-depth study in the concentration area. Because it requires 79 credit hours of courses within the Department of Art and Art History, and because many of the concentration courses are sequential, it is important to begin taking three studio art courses and one art history course during the first semester of study. Students should not complete the General Education courses before beginning the courses in the major. This will delay time to graduation. Four-year schedules differ for each concentration and are available online or in the departmental office.

### Admission Requirements

**New Freshmen and Transfer Students**

- See University Admission Requirements
- *Minimum GPA:* N/A
- *Declaration of Major*: Submit a digital portfolio of work for review. Check the department website for deadlines and FAQs on submission requirements. The department accepts new students from these groups for Fall semesters only. Students who are not admitted may re-submit their portfolio the following year. Only one re-submission is allowed.
- *Transferable Credit Hours*: All transfer courses are automatically reviewed by the Office of Undergraduate Admissions. Students seeking to appeal the official transfer designations for ARTx courses must provide the Department Academic Advisor with copies of the official course descriptions and a syllabus for each course requested for consideration. Portfolios of creative work from each of the individual studio courses may also be required.

**Currently Enrolled Students**

- Minimum Cumulative GPA: 2.0
- Submit a digital portfolio of work for review. Check the department website for deadlines and FAQs on submission requirements. The department accepts new students from these groups for Fall semesters only. Students who are not admitted may re-submit their portfolio the following year. Only one re-submission is allowed.

### Degree Requirements

The Bachelor of Fine Arts (B.F.A.) in Art provides in-depth study with several concentration options; however, students may choose only one concentration area to pursue unless the second concentration area is Art Education (leading to K-12 licensure). If a student is pursuing a second major in Graphic Design, a maximum of 24 credits may be used towards Art major or concentration requirements. Students may take a maximum of 3 studio courses per semester without an approved academic petition to enroll in a 4th studio course.

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Foreign Language Requirement (0-3 credit hours)**

Students in this major are required to demonstrate proficiency in the language of their choice through the 1201 level. Proficiency can be demonstrated in one of the following ways:

- Completing the required coursework at UNC Charlotte
- Completing three years of the same foreign language in high school through level three
- Achieving a satisfactory score on the foreign languages placement test (in Spanish, French, or German)
- Through approved transfer or transient credit earned at a college or university accredited by an accepted accrediting body

**Major Courses (79 credit hours)**

***Basic Foundation Studios (15 credit hours)***

ARTB 1201 - 2D Design (3)
ARTB 1203 - Drawing 1 (3)
ARTB 1202 - 3D Design (3)
ARTB 1204 - Digital Foundations (3)
ARTB 1206 - First Year Seminar (3)

***Art History Courses (15 credit hours)***

ARTH 1211 - Art History Survey I (3)
ARTH 1212 - Art History Survey II (3)
ARTH 2110 - Contemporary Art History (3)
ARTH xxxx - Art History Elective Course (3)
ARTH xxxx - Art History Elective Course (3)

***Elective Course (3 credit hours)***

Students should take any type of course in the department (except ARTE 2121). If an Art History course is selected, students automatically earn a Minor in Art History, but they will need to declare the minor in the Department of Art and Art History advising office.

***Advanced Elective Courses (6 credit hours)***

Two Department of Art and Art History courses are required at the 3000 or 4000 level. These courses have prerequisites at the 2000 level (or above).

***Concentration Courses (30 credit hours)***

*Concentration Introductory Studio Courses (15 credit hours)*

Students must take at least one introductory course from each of the 3D content areas: ARTC, ARTF, ARTZ.

ARTC 2171 - Ceramics Handbuilding (3)
or ARTF 2151 - Fibers I (3)
or ARTZ 2141 - Methods and Materials in Sculpture (3)
or ARTZ 2306 - Introduction to 3D Modeling and Digital Fabrication (3)
1 course from any of these areas: ARTC, ARTF, ARTZ (3)
1 additional course from any of these areas: ARTC, ARTF, ARTZ (3)
1 additional course from any of these areas: ARTC, ARTD, ARTF, ARTG, ARTL, ARTM, ARTP, ARTR, ARTT, ARTZ (3)
1 additional course from any of these areas: ARTC, ARTD, ARTF, ARTG, ARTL, ARTM, ARTP, ARTR, ARTT, ARTZ (3)

*Concentration Advanced Studio Courses (15 credit hours)*
Students must complete the advanced courses in their chosen concentration. Some courses are sequential and require B.F.A. status as one of the prerequisites.

ARTC 3171 - Ceramic Sculpture (3)
or ARTC 3172 - Ceramics Wheel II (3)
or ARTF 3352 - Fibers: Surface Design (3)
or ARTF 3353 - Fibers: Constructed Textiles (3)
or ARTZ 3142 - Sculpture: Metal Fabrication and Bronze Casting (3)
or ARTZ 3243 - Sculpture: Wood and Stone Carving (3)
or ARTZ 3306 - Advanced 3D Modeling and Digital Fabrication (3)
1 additional 3000-level course from any of these areas: ARTC, ARTF, ARTZ (3)
1 additional 3000-level course from any of these areas: ARTC, ARTF, ARTZ (3)
1 additional 3000-level course from any of these areas: ARTC, ARTD, ARTF, ARTG, ARTL, ARTM, ARTP, ARTR, ARTT, ARTZ (3)
1 additional 3000-level course from any of these areas: ARTC, ARTD, ARTF, ARTG, ARTL, ARTM, ARTP, ARTR, ARTT, ARTZ (3)

***Senior Experience (9 credit hours)***
*Students should take the following courses simultaneously:*
ARTA 4600 - Senior Seminar (3)
ARTA 4901 - Senior Thesis I: Creative Research
ARTA 4902 - Senior Thesis II: Advanced Creative Practice (3)
or ARTL 4981 - Illustration Projects (3)

***B.F.A. Portfolio Review (1 credit hour)***
ARTA 3201 - B.F.A. Portfolio Review (1)

Students should register for ARTA 3201 after completion of ARTB 1201, ARTB 1202, ARTB 1203, ARTB 1204, and ARTB 1206. Internal transfers are required to have a cumulative 2.0 GPA. Art major required. Art Education requirements are listed under the section for the B.F.A. in Art with Concentration in Art Education program. Students compile a portfolio of work and written information to apply to any concentration in the B.F.A. in Art. A passing grade reflects acceptance of portfolio and admission into the B.F.A. degree program. Those denied may retake the course once. If denied a second time, students must move on to B.A. in Art status. Students must pass the course by 5th semester enrolled in the department or must move to B.A. in Art status. ARTA 3201 is graded on a Pass/No Credit basis.

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

### Academic Advising
All Art, Graphic Design, and Art History majors are required to meet with the Academic Advisor in the Department of Art and Art History each semester. Students will not be able to register for any course at UNC Charlotte without attending the mandatory advising meetings. The Academic Advisor is available year-round.

Career mentoring in studio, graphic design, art history, and art education is offered by individual faculty members who are active professionals in those areas of study. Contact is best done by email or telephone. Most professors are available for appointments from the first day of classes until the last day of classes each Fall and Spring semester. Requirements for degrees and minors, as well as 4-year B.F.A. calendars, are available in the Department of Art and Art History office and online at art.charlotte.edu.

Students seeking to confirm that General Education graduation requirements are met should use DegreeWorks in My UNC Charlotte (my.charlotte.edu). Those seeking confirmation of Art requirements must contact the Academic Advisor.

### Progression Requirements
To graduate with a B.F.A. in Art with Concentration in 3D Interdisciplinary Studies: Art in Space, students must achieve a minimum GPA of 2.0 in all courses required for the major.

### Admission to Upper Division
Art majors must successfully complete ARTB 1201, ARTB 1202, ARTB 1203, ARTB 1204, and ARTB 1206, and then may enroll in ARTA 3201 (which may be repeated once). During the course, students assemble a portfolio of work and written documentation, which they submit to the B.F.A. Review Committee. Students may not take advanced studio courses without successfully completing this course and having gained acceptance into the B.F.A. program.

### Honors Program
For details about the Honors Program in Arts + Architecture, see the beginning of the College of Arts + Architecture section.

## Bachelor of Fine Arts in Art
## *with Concentration in Art Education*
The Department of Art and Art History offers a program of Art and Education courses to prepare students for K-12 Art Education licensure in North Carolina. Students should contact the Arts Education Specialist as soon as possible for advising. A decision later than freshman year to seek licensure may result in a delayed graduation date.

### Admission Requirements

**New Freshmen and Transfer Students**

- See University Admission Requirements
- *Minimum GPA:* N/A
- *Declaration of Major*: Submit a digital portfolio of work for review. Check the department website for deadlines and FAQs on submission requirements. The department accepts new students from these groups for Fall semesters only. Students who are not admitted may re-submit their portfolio the following year. Only one re-submission is allowed.
- *Transferable Credit Hours*: All transfer courses are automatically reviewed by the Office of Undergraduate Admissions. Students seeking to appeal the official transfer designations for ARTx courses must provide the Department Academic Advisor with copies of the official course descriptions and a syllabus for each course requested for consideration. Portfolios of creative work from each of the individual studio courses may also be required.

**Currently Enrolled Students**

- Minimum Cumulative GPA: 2.0
- Submit a digital portfolio of work for review. Check the department website for deadlines and FAQs on submission requirements. The department accepts new students from these groups for Fall semesters only. Students who are not admitted may re-submit their portfolio the following year. Only one re-submission is allowed.

## Degree Requirements

The Bachelor of Fine Arts (B.F.A.) in Art provides in-depth study with several concentration options; however, students may choose only one concentration area to pursue unless the second concentration area is Art Education (leading to K-12 licensure). If a student is pursuing a second major in Graphic Design, a maximum of 24 credits may be used towards Art major or concentration requirements. Students may take a maximum of 3 studio courses per semester without an approved academic petition to enroll in a 4th studio course.

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

Students intending to earn either the B.F.A. in Art or the B.A. in Art should take three ARTB 120x courses, and one ARTH course (ARTH 1211, ARTH 1212, or ARTH 2110) in the first semester of their Freshman year. All of the General Education courses should be organized around the Art requirements. It is usually not possible to graduate in four years without taking this number of Art courses right away. Prerequisite sequencing dictates the time to graduation, and all students should become thoroughly familiar with the course descriptions.

**Major Courses (46 credit hours)**

***Foundation Courses (15 credit hours)***

ARTB 1201 - 2D Design (3)
ARTB 1202 - 3D Design (3)
ARTB 1203 - Drawing 1 (3)
ARTB 1204 - Digital Foundations (3)
ARTB 1206 - First Year Seminar (3)

***Art History Courses (12 credit hours)***

ARTH 1211 - Art History Survey 1 (3)
ARTH 1212 - Art History Survey 2 (3)
ARTH 2110 - Contemporary Art History (3)
One additional Art History course of student's choice (3)

***Studio Courses (24 credit hours)***

*Required Studio Courses (6 credit hours)*

ARTP 2131 - Painting I (3)
or ARTD 2139 - Drawing II (3)
ARTR 2161 - Photo-Mechanical Print Media (3)
or ARTR 2162 - Drawing/Expression in Print Media (3)
or ARTT 2191 - Photographic Media I (3)

***Elective Studio Courses (18 credit hours)***

- One 2000-level course from ARTC (Ceramics), ARTF (Fibers), or ARTZ (Sculpture) (3)
- One more 2000-level course from a different area than above of ARTC, ARTF, or ARTZ (3)
- Two studio courses at the 3000-level from a single (i.e., the same) studio area (6)
- Two elective studios from the following choices: ARTB, ARTC, ARTD, ARTF, ARTG, ARTL, ARTM, ARTP, ARTR, ARTT, ARTZ (6)

**Concentration Courses (34 credit hours)**

ARTE 2100 - Artists as Teachers (3)*
ARTE 3121 - Elementary Art Methods (3) *
ARTE 3124 – Investigating Global Art (3)*
ARTE 4122 - Secondary Art Methods (3) *
ARTE 4125 - Creativity and Social and Emotional Learning in Art Education (3)
ARTE 4466 - Art Education Year-Long Internship (0)
ARTE 4467 - Student Teaching in Visual Art (12)*
EDUC 4290 - Modifying Instruction for Learners with Diverse Needs (3)*
SPED 2100 - Introduction to Students with Special Needs (3)

**Transfer students must take these courses at UNC Charlotte.*

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Academic Advising

All Art, Graphic Design, and Art History majors are required to meet with the Academic Advisor in the Department of Art and Art History each semester. Students will not be able to register for any course at UNC Charlotte without attending the mandatory advising meetings. The Academic Advisor is available year-round.

Career mentoring in studio, graphic design, art history, and art education is offered by individual faculty members who are active professionals in those areas of study. Contact is best done by email or telephone. Most professors are available for appointments from the first day of classes

until the last day of classes each Fall and Spring semester. Requirements for degrees and minors, as well as 4-year B.F.A. calendars, are available in the Department of Art and Art History office and online at art.charlotte.edu.

Students seeking to confirm that General Education graduation requirements are met should use DegreeWorks in My UNC Charlotte (my.charlotte.edu). Those seeking confirmation of Art requirements must contact the Academic Advisor.

## Progression Requirements

To be formally admitted to the B.F.A. in Art with a concentration in Art Education, students must achieve the following in order to take ARTA 3201.

- *Minimum GPA of 2.7 overall GPA*
- *Pre-Major/Prerequisite Courses:*
  - ARTE 2100 with grade of C or above
  - SPED 2100 with grade of C or above
- Achieve passing scores on Praxis Core (or prove exemption via test scores)
- Application to Teacher Education (includes a clear background check and signed professional dispositions statement)

## Admission to Upper Division

Art majors must successfully complete ARTB 1201, ARTB 1202, ARTB 1203, ARTB 1204, and ARTB 1206, and then may enroll in ARTA 3201 (which may be repeated once). During the course, students assemble a portfolio of work and written documentation, which they submit to the B.F.A. Review Committee. Students may not take advanced studio courses without successfully completing this course and having gained acceptance into the B.F.A. program.

## Special Policies or Requirements

To progress to Student Teaching, students must earn a minimum 2.75 GPA in all Art and Education courses and a minimum 2.5 GPA overall. All Art and Education coursework must be grade of C or above. Students must also earn a grade of B or above in Student Teaching and pass Praxis II: Art Content and Analysis to be recommended for licensure.

## Honors Program

For details about the Honors Program in Arts + Architecture, see the beginning of the College of Arts + Architecture section.

# Bachelor of Fine Arts in Art
## *with Concentration in Digital Media and Game Design*

This Bachelor of Fine Arts (B.F.A.) in Art provides in-depth study in the concentration area. Because it requires 79 credit hours of courses within the Department of Art and Art History, and because many of the concentration courses are sequential, it is important to begin taking three studio art courses and one art history course during the first semester of study. Students should not complete the General Education courses before beginning the courses in the major. This will delay time to graduation. A minor in Film Studies or Computer Science is strongly recommended for students interested in game design, interactive design, motion design, digital media, or animation.

## Admission Requirements

### New Freshmen and Transfer Students

- See University Admission Requirements
- *Minimum GPA:* N/A
- *Declaration of Major*: Submit a digital portfolio of work for review. Check the department website for deadlines and FAQs on submission requirements. The department accepts new students from these groups for Fall semesters only. Students who are not admitted may re-submit their portfolio the following year. Only one re-submission is allowed.
- *Transferable Credit Hours*: All transfer courses are automatically reviewed by the Office of Undergraduate Admissions. Students seeking to appeal the official transfer designations for ARTx courses must provide the Department Academic Advisor with copies of the official course descriptions and a syllabus for each course requested for consideration. Portfolios of creative work from each of the individual studio courses may also be required.

### Currently Enrolled Students

- Minimum Cumulative GPA: 2.0
- Submit a digital portfolio of work for review. Check the department
- website for deadlines and FAQs on submission requirements. The department accepts new students from these groups for Fall semesters only. Students who are not admitted may re-submit their portfolio the following year. Only one re-submission is allowed.

## Degree Requirements

The Bachelor of Fine Arts (B.F.A.) in Art provides in-depth study with several concentration options; however, students may choose only one concentration area to pursue unless the second concentration area is Art Education (leading to K-12 licensure). If a student is pursuing a second major in Graphic Design, a maximum of 24 credits may be used towards Art major or concentration requirements. Students may take a maximum of 3 studio courses per semester without an approved academic petition to enroll in a 4th studio course.

### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

### Foreign Language Requirement (0-3 credit hours)

Students in this major are required to demonstrate proficiency in the language of their choice through the 1201 level. Proficiency can be demonstrated in one of the following ways:

- Completing the required coursework at UNC Charlotte
- Completing three years of the same foreign language in high school through level three
- Achieving a satisfactory score on the foreign languages placement test (in Spanish, French, or German)
- Through approved transfer or transient credit earned at a college or university accredited by an accepted accrediting body

### Major Courses (79 credit hours)

***Basic Foundation Studios (15 credit hours)***

ARTB 1201 - 2D Design (3)
ARTB 1203 - Drawing 1 (3)
ARTB 1202 - 3D Design (3)
ARTB 1204 - Digital Foundations (3)
ARTB 1206 - First Year Seminar (3)

***Art History Courses (15 credit hours)***
ARTH 1211 - Art History Survey I (3)
ARTH 1212 - Art History Survey II (3)
ARTH 2110 - Contemporary Art History (3)
ARTH xxxx - Art History Elective Course (3)
ARTH xxxx - Art History Elective Course (3)

***Elective Course (3 credit hours)***
Students should take any type of course in the department (except ARTE 2121). If an Art History course is selected, students automatically earn a Minor in Art History, but they will need to declare the minor in the Department of Art and Art History advising office.

***Advanced Elective Courses (6 credit hours)***
Two Department of Art and Art History courses are required at the 3000 or 4000 level. These courses have prerequisites at the 2000 level (or above).

***Concentration Courses (30 credit hours)***
*Concentration Introductory Studio Courses (15 credit hours)*
ARTM 2105 - 4D (3)
1 course from any of these areas: ARTC, ARTF, ARTZ (3)
Additional courses from any of these areas: ARTC, ARTD, ARTF, ARTG, ARTL, ARTM, ARTP, ARTR, ARTT, ARTZ (3)

*Concentration Advanced Studio Courses (15 credit hours)*
Due to frequent shifts in digital technologies, students are strongly encouraged to speak with concentration faculty before registering for classes to determine the best offerings for their professional and creative goals.

ARTM 3101 - 2D Game Design (3)
ARTM 3102 - 3D Modeling and Animation (3)
and ARTM 3204 - 3D Game Design (3)
or 1 of the following:
ARTM 3005 - Topics in Digital Media (3)
ARTM 3105 - Video Art (3)
ARTM 3205 - Interactive Art and Design (3)
ARTM 3103 - Animation Production (3)
ARTM 3390 - Digital Compositing (3)
ARTM 3405 - Internship in Digital Media (3)

Plus 2 additional 3000-level courses from any of these areas: ARTC, ARTD, ARTF, ARTG, ARTL, ARTM, ARTP, ARTR, ARTT, ARTZ (3)

***Senior Experience (9 credit hours)***
*Students should take the following courses simultaneously:*
ARTA 4600 - Senior Seminar (3)
ARTA 4901 - Senior Thesis I: Creative Research (3)
and
ARTA 4902 - Senior Thesis II: Advanced Creative Practice (3)
or ARTL 4981 - Illustration Projects (3)

***B.F.A. Portfolio Review (1 credit hour)***
ARTA 3201 - B.F.A. Portfolio Review (1)

Students should register for ARTA 3201 after completion of ARTB 1201, ARTB 1202, ARTB 1203, ARTB 1204, and ARTB 1206. Internal transfers are required to have a cumulative 2.0 GPA. Art major required. Art Education requirements are listed under the section for the B.F.A. in Art with Concentration in Art Education program. Students compile a portfolio of work and written information to apply to any concentration in the B.F.A. in Art. A passing grade reflects acceptance of portfolio and admission into the B.F.A. degree program. Those denied may retake the course once. If denied a second time, student must move on to B.A. in Art status. Students must pass the course by 5th semester enrolled in the department or must move to B.A. in Art status. ARTA 3201 is graded on a Pass/No Credit basis.

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Academic Advising
All Art, Graphic Design, and Art History majors are required to meet with the Academic Advisor in the Department of Art and Art History each semester. Students will not be able to register for any course at UNC Charlotte without attending the mandatory advising meetings. The Academic Advisor is available year-round.

Career mentoring in studio, graphic design, art history, and art education is offered by individual faculty members who are active professionals in those areas of study. Contact is best done by email or telephone. Most professors are available for appointments from the first day of classes until the last day of classes each Fall and Spring semester. Requirements for degrees and minors, as well as 4-year B.F.A. calendars, are available in the Department of Art and Art History office and online at art.charlotte.edu.

Students seeking to confirm that General Education graduation requirements are met should use DegreeWorks in My UNC Charlotte (my.charlotte.edu). Those seeking confirmation of Art requirements must contact the Academic Advisor.

## Progression Requirements
To graduate with a B.F.A. in Art with Concentration in Digital Media, students must achieve a minimum GPA of 2.0 in all courses required for the major.

## Admission to Upper Division
Art majors must successfully complete ARTB 1201, ARTB 1202, ARTB 1203, ARTB 1204, and ARTB 1206, and then may enroll in ARTA 3201 (which may be repeated once). During the course, students assemble a portfolio of work and written documentation, which they submit to the B.F.A. Review Committee. Students may not take advanced studio courses without successfully completing this course and having gained acceptance into the B.F.A. program.

## Honors Program

For details about the Honors Program in Arts + Architecture, see the beginning of the College of Arts + Architecture section.

# Bachelor of Fine Arts in Art
## *with Concentration in Illustration*

This Bachelor of Fine Arts (B.F.A.) in Art provides in-depth study in the concentration area. Because it requires 79 credit hours of courses within the Department of Art and Art History, and because many of the concentration courses are sequential, it is important to begin taking three studio art courses and one art history course during the first semester of study. Students should not complete the General Education courses before beginning the courses in the major. This will delay time to graduation. Four-year schedules differ for each concentration and are available online or in the departmental office.

## Admission Requirements

### New Freshmen and Transfer Students

- See University Admission Requirements
- *Minimum GPA:* N/A
- *Declaration of Major*: Submit a digital portfolio of work for review. Check the department website for deadlines and FAQs on submission requirements. The department accepts new students from these groups for Fall semesters only. Students who are not admitted may re-submit their portfolio the following year. Only one re-submission is allowed.
- *Transferable Credit Hours*: All transfer courses are automatically reviewed by the Office of Undergraduate Admissions. Students seeking to appeal the official transfer designations for ARTx courses must provide the Department Academic Advisor with copies of the official course descriptions and a syllabus for each course requested for consideration. Portfolios of creative work from each of the individual studio courses may also be required.

### Currently Enrolled Students

- Minimum Cumulative GPA: 2.0
- Submit a digital portfolio of work for review. Check the department website for deadlines and FAQs on submission requirements. The department accepts new students from these groups for Fall semesters only. Students who are not admitted may re-submit their portfolio the following year. Only one re-submission is allowed.

## Degree Requirements

The Bachelor of Fine Arts (B.F.A.) in Art provides in-depth study with several concentration options; however, students may choose only one concentration area to pursue unless the second concentration area is Art Education (leading to K-12 licensure). If a student is pursuing a second major in Graphic Design, a maximum of 24 credits may be used towards Art major or concentration requirements. Students may take a maximum of 3 studio courses per semester without an approved academic petition to enroll in a 4th studio course.

### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

### Foreign Language Requirement (0-3 credit hours)

Students in this major are required to demonstrate proficiency in the language of their choice through the 1201 level. Proficiency can be demonstrated in one of the following ways:

- Completing the required coursework at UNC Charlotte
- Completing three years of the same foreign language in high school through level three
- Achieving a satisfactory score on the foreign languages placement test (in Spanish, French, or German)
- Through approved transfer or transient credit earned at a college or university accredited by an accepted accrediting body

### Major Courses (79 credit hours)

#### *Basic Foundation Studios (15 credit hours)*

ARTB 1201 - 2D Design (3)
ARTB 1203 - Drawing 1 (3)
ARTB 1202 - 3D Design (3)
ARTB 1204 - Digital Foundations (3)
ARTB 1206 - First Year Seminar (3)

#### *Art History Courses (15 credit hours)*

ARTH 1211 - Art History Survey I (3)
ARTH 1212 - Art History Survey II (3)
ARTH 2110 - Contemporary Art History (3)
ARTH xxxx - Art History Elective Course (3)
ARTH xxxx - Art History Elective Course (3)

#### *Elective Course (3 credit hours)*

Students should take any type of course in the department (except ARTE 2121). If an Art History course is selected, students automatically earn a Minor in Art History, but they will need to declare the minor in the Department of Art and Art History advising office.

#### *Advanced Elective Courses (6 credit hours)*

Two Department of Art and Art History courses are required at the 3000 or 4000 level. These courses have prerequisites at the 2000 level (or above).

#### *Concentration Courses (33 credit hours)*

#### *Concentration Introductory Studio Courses (15 credit hours)*

ARTD 2134 - Figure Drawing I (3)
ARTD 2139 - Drawing II (3)
or ARTR 2162 - Drawing/Expression in Print Media (3)
ARTL 2186 - Illustration I (3)
One (1) 2000-level course from any of these areas: ARTC, ARTF, ARTZ (3)
One (1) additional 2000-level course from any of these areas: ARTC, ARTD, ARTF, ARTG, ARTL, ARTM, ARTP, ARTR, ARTT, ARTZ (3)

#### *Concentration Advanced Studio Courses (18 credit hours)*

Students must complete the advanced courses in their chosen concentration. Some courses are sequential and require B.F.A. status as

one of the prerequisites.

ARTD 3134 - Figure and Anatomy (3)
or 1 additional 3000-level course from any of these areas: ARTC, ARTD, ARTF, ARTG, ARTL, ARTM, ARTP, ARTR, ARTT, ARTZ (3)
ARTL 3186 – Visual Development: Environment (3)
ARTL 3187 - Narrative Illustration for Publishing Industry (3)
ARTL 3188 – Visual Development: Character Design (3)
or ARTL 3286 – Narrative Illustration for Entertainment Industry (3)
2 additional 3000-level courses from any of these areas: ARTC, ARTD, ARTF, ARTG, ARTL, ARTM, ARTP, ARTR, ARTT, ARTZ (6)

***Senior Experience (6 credit hours)***
*Students should take the following courses simultaneously:*
ARTA 4600 - Senior Seminar (3)
ARTL 4981 - Illustration Projects (3)

***B.F.A. Portfolio Review (1 credit hour)***
ARTA 3201 - B.F.A. Portfolio Review (1)

Students should register for ARTA 3201 after completion of ARTB 1201, ARTB 1202, ARTB 1203, ARTB 1204, and ARTB 1206. Internal transfers are required to have a cumulative 2.0 GPA. Art major required. Art Education requirements are listed under the section for the B.F.A. in Art with Concentration in Art Education program. Students compile a portfolio of work and written information to apply to any concentration in the B.F.A. in Art. A passing grade reflects acceptance of portfolio and admission into the B.F.A. degree program. Those denied may retake the course once. If denied a second time, student must move on to B.A. in Art status. Students must pass the course by 5th semester enrolled in the department or must move to B.A. in Art status. ARTA 3201 is graded on a Pass/No Credit basis.

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Academic Advising
All Art, Graphic Design, and Art History majors are required to meet with the Academic Advisor in the Department of Art and Art History each semester. Students will not be able to register for any course at UNC Charlotte without attending the mandatory advising meetings. The Academic Advisor is available year-round.

Career mentoring in studio, graphic design, art history, and art education is offered by individual faculty members who are active professionals in those areas of study. Contact is best done by email or telephone. Most professors are available for appointments from the first day of classes until the last day of classes each Fall and Spring semester. Requirements for degrees and minors, as well as 4-year B.F.A. calendars, are available in the Department of Art and Art History office and online at art.charlotte.edu.

Students seeking to confirm that General Education graduation requirements are met should use DegreeWorks in My UNC Charlotte (my.charlotte.edu). Those seeking confirmation of Art requirements must contact the Academic Advisor.

## Progression Requirements
To graduate with a B.F.A. in Art with Concentration in Illustration, students must achieve a minimum GPA of 2.0 in all courses required for the major.

## Admission to Upper Division
Art majors must successfully complete ARTB 1201, ARTB 1202, ARTB 1203, ARTB 1204, and ARTB 1206, and then may enroll in ARTA 3201 (which may be repeated once). During the course, students assemble a portfolio of work and written documentation, which they submit to the B.F.A. Review Committee. Students may not take advanced studio courses without successfully completing this course and having gained acceptance into the B.F.A. program.

## Honors Program
For details about the Honors Program in Arts + Architecture, see the beginning of the College of Arts + Architecture section.

# Bachelor of Fine Arts in Art
## *with Concentration in Painting*
This Bachelor of Fine Arts (B.F.A.) in Art provides in-depth study in the concentration area. Because it requires 79 credit hours of courses within the Department of Art and Art History, and because many of the concentration courses are sequential, it is important to begin taking three studio art courses and one art history course during the first semester of study. Students should not complete the General Education courses before beginning the courses in the major. This will delay time to graduation. Four-year schedules differ for each concentration and are available online or in the departmental office.

## Admission Requirements
**New Freshmen and Transfer Students**
- See University Admission Requirements
- *Minimum GPA:* N/A
- *Declaration of Major*: Submit a digital portfolio of work for review. Check the department website for deadlines and FAQs on submission requirements. The department accepts new students from these groups for Fall semesters only. Students who are not admitted may re-submit their portfolio the following year. Only one re-submission is allowed.
- *Transferable Credit Hours*: All transfer courses are automatically reviewed by the Office of Undergraduate Admissions. Students seeking to appeal the official transfer designations for ARTx courses must provide the Department Academic Advisor with copies of the official course descriptions and a syllabus for each course requested for consideration. Portfolios of creative work from each of the individual studio courses may also be required.

**Currently Enrolled Students**
- Minimum Cumulative GPA: 2.0

- Submit a digital portfolio of work for review. Check the department website for deadlines and FAQs on submission requirements. The department accepts new students from these groups for Fall semesters only. Students who are not admitted may re-submit their portfolio the following year. Only one re-submission is allowed.

## Degree Requirements

The Bachelor of Fine Arts (B.F.A.) in Art provides in-depth study with several concentration options; however, students may choose only one concentration area to pursue unless the second concentration area is Art Education (leading to K-12 licensure). If a student is pursuing a second major in Graphic Design, a maximum of 24 credits may be used towards Art major or concentration requirements. Students may take a maximum of 3 studio courses per semester without an approved academic petition to enroll in a 4th studio course.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Foreign Language Requirement (0-3 credit hours)**
Students in this major are required to demonstrate proficiency in the language of their choice through the 1201 level. Proficiency can be demonstrated in one of the following ways:

- Completing the required coursework at UNC Charlotte
- Completing three years of the same foreign language in high school through level three
- Achieving a satisfactory score on the foreign languages placement test (in Spanish, French, or German)
- Through approved transfer or transient credit earned at a college or university accredited by an accepted accrediting body

**Major Courses (79 credit hours)**
***Basic Foundation Studios (15 credit hours)***
ARTB 1201 - 2D Design (3)
ARTB 1203 - Drawing 1 (3)
ARTB 1202 - 3D Design (3)
ARTB 1204 - Digital Foundations (3)
ARTB 1206 - First Year Seminar (3)

***Art History Courses (15 credit hours)***
ARTH 1211 - Art History Survey I (3)
ARTH 1212 - Art History Survey II (3)
ARTH 2110 - Contemporary Art History (3)
ARTH xxxx - Art History Elective Course (3)
ARTH xxxx - Art History Elective Course (3)

***Elective Course (3 credit hours)***
Students should take any type of course in the department (except ARTE 2121). If an Art History course is selected, students automatically earn a Minor in Art History, but they will need to declare the minor in the Department of Art and Art History advising office.

***Advanced Elective Courses (6 credit hours)***
Two Department of Art and Art History courses are required at the 3000 or 4000 level. These courses have prerequisites at the 2000 level (or above).

***Concentration Courses (30 credit hours)***
*Concentration Introductory Studio Courses (15 credit hours)*
ARTD 2134 - Figure Drawing I (3)
ARTD 2139 - Drawing II (3)
ARTP 2131 - Painting I (3)
1 course from any of these areas: ARTC, ARTF, ARTZ (3)
1 additional course from any of these areas: ARTC, ARTD, ARTF, ARTG, ARTL, ARTM, ARTP, ARTR, ARTT, ARTZ (3)

*Concentration Advanced Studio Courses (15 credit hours)*
Students must complete the advanced courses in their chosen concentration. Some courses are sequential and require B.F.A. status as one of the prerequisites.

ARTP 3131 - Abstract Painting (3)
ARTP 3132 - Figurative Painting (3)
ARTP 3161 - Mixed Media Painting (3)
1 additional 3000-level course from any of these areas: ARTC, ARTD, ARTF, ARTG, ARTL, ARTM, ARTP, ARTR, ARTT, ARTZ (3)
1 additional 3000-level course from any of these areas: ARTC, ARTD, ARTF, ARTG, ARTL, ARTM, ARTP, ARTR, ARTT, ARTZ (3)

***Senior Experience (9 credit hours)***
*Students should take the following courses simultaneously:*
ARTA 4600 - Senior Seminar (3)
ARTA 4901 - Senior Thesis I: Creative Research
ARTA 4902 - Senior Thesis II: Advanced Creative Practice (3)
or ARTL 4981 - Illustration Projects (3)

***B.F.A. Portfolio Review (1 credit hour)***
ARTA 3201 - B.F.A. Portfolio Review (1)

Students should register for ARTA 3201 after completion of ARTB 1201, ARTB 1202, ARTB 1203, ARTB 1204, and ARTB 1206. Internal transfers are required to have a cumulative 2.0 GPA. Art major required. Art Education requirements are listed under the section for the B.F.A. in Art with Concentration in Art Education program. Students compile a portfolio of work and written information to apply to any concentration in the B.F.A. in Art. A passing grade reflects acceptance of portfolio and admission into the B.F.A. degree program. Those denied may retake the course once. If denied a second time, student must move on to B.A. in Art status. Students must pass the course by 5th semester enrolled in the department or must move to B.A. in Art status. ARTA 3201 is graded on a Pass/No Credit basis.

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Academic Advising

All Art, Graphic Design, and Art History majors are required to meet with the Academic Advisor in the Department of Art and Art History each semester. Students will not be able to register for any course at UNC Charlotte without attending the mandatory advising meetings. The Academic Advisor is available year-round.

Career mentoring in studio, graphic design, art history, and art education is offered by individual faculty members who are active professionals in those areas of study. Contact is best done by email or telephone. Most professors are available for appointments from the first day of classes until the last day of classes each Fall and Spring semester. Requirements for degrees and minors, as well as 4-year B.F.A. calendars, are available in the Department of Art and Art History office and online at art.charlotte.edu.

Students seeking to confirm that General Education graduation requirements are met should use DegreeWorks in My UNC Charlotte (my.charlotte.edu). Those seeking confirmation of Art requirements must contact the Academic Advisor.

## Progression Requirements

To graduate with a B.F.A. in Art with Concentration in Painting, students must achieve a minimum GPA of 2.0 in all courses required for the major.

## Admission to Upper Division

Art majors must successfully complete ARTB 1201, ARTB 1202, ARTB 1203, ARTB 1204, and ARTB 1206, and then may enroll in ARTA 3201 (which may be repeated once). During the course, students assemble a portfolio of work and written documentation, which they submit to the B.F.A. Review Committee. Students may not take advanced studio courses without successfully completing this course and having gained acceptance into the B.F.A. program.

## Honors Program

For details about the Honors Program in Arts + Architecture, see the beginning of the College of Arts + Architecture section.

# Bachelor of Fine Arts in Art
## *with Concentration in Photography*

This Bachelor of Fine Arts (B.F.A.) in Art provides in-depth study in the concentration area. Because it requires 79 credit hours of courses within the Department of Art and Art History, and because many of the concentration courses are sequential, it is important to begin taking three studio art courses and one art history course during the first semester of study. Students should not complete the General Education courses before beginning the courses in the major. This will delay time to graduation. Four-year schedules differ for each concentration and are available online or in the departmental office.

## Admission Requirements

**New Freshmen and Transfer Students**

- See University Admission Requirements
- *Minimum GPA:* N/A
- *Declaration of Major*: Submit a digital portfolio of work for review. Check the department website for deadlines and FAQs on submission requirements. The department accepts new students from these groups for Fall semesters only. Students who are not admitted may re-submit their portfolio the following year. Only one re-submission is allowed.
- *Transferable Credit Hours*: All transfer courses are automatically reviewed by the Office of Undergraduate Admissions. Students seeking to appeal the official transfer designations for ARTx courses must provide the Department Academic Advisor with copies of the official course descriptions and a syllabus for each course requested for consideration. Portfolios of creative work from each of the individual studio courses may also be required.

**Currently Enrolled Students**

- Minimum Cumulative GPA: 2.0
- Submit a digital portfolio of work for review. Check the department
- website for deadlines and FAQs on submission requirements. The department accepts new students from these groups for Fall semesters only. Students who are not admitted may re-submit their portfolio the following year. Only one re-submission is allowed.

## Degree Requirements

The Bachelor of Fine Arts (B.F.A.) in Art provides in-depth study with several concentration options; however, students may choose only one concentration area to pursue unless the second concentration area is Art Education (leading to K-12 licensure). If a student is pursuing a second major in Graphic Design, a maximum of 24 credits may be used towards Art major or concentration requirements. Students may take a maximum of 3 studio courses per semester without an approved academic petition to enroll in a 4th studio course.

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Foreign Language Requirement (0-3 credit hours)**

Students in this major are required to demonstrate proficiency in the language of their choice through the 1201 level. Proficiency can be demonstrated in one of the following ways:

- Completing the required coursework at UNC Charlotte
- Completing three years of the same foreign language in high school through level three
- Achieving a satisfactory score on the foreign languages placement test (in Spanish, French, or German)
- Through approved transfer or transient credit earned at a college or university accredited by an accepted accrediting body

**Major Courses (79 credit hours)**

***Basic Foundation Studios (15 credit hours)***

ARTB 1201 - 2D Design (3)
ARTB 1203 - Drawing 1 (3)
ARTB 1202 - 3D Design (3)
ARTB 1204 - Digital Foundations (3)
ARTB 1206 - First Year Seminar (3)

***Art History Courses (15 credit hours)***

ARTH 1211 - Art History Survey I (3)
ARTH 1212 - Art History Survey II (3)
ARTH 2110 - Contemporary Art History (3)
ARTH 3393 - History of Photography (3)
or ARTH 3694 - Histories of New Media (3)
ARTH xxxx - Art History Elective Course (3)

***Elective Course (3 credit hours)***
Students should take any type of course in the department (except ARTE 2121). If an Art History course is selected, students automatically earn a Minor in Art History, but they will need to declare the minor in the Department of Art and Art History advising office.

***Advanced Elective Courses (6 credit hours)***
Two Department of Art and Art History courses are required at the 3000 or 4000 level. These courses have prerequisites at the 2000 level (or above).

***Concentration Courses (30 credit hours)***
*Concentration Introductory Studio Courses (15 credit hours)*
ARTT 2191 - Photographic Media I (3)
1 course from any of these areas: ARTC, ARTF, ARTZ (3)
1 additional course from any of these areas: ARTC, ARTD, ARTF, ARTG, ARTL, ARTM, ARTP, ARTR, ARTT, ARTZ (3)
1 additional course from any of these areas: ARTC, ARTD, ARTF, ARTG, ARTL, ARTM, ARTP, ARTR, ARTT, ARTZ (3)
1 additional course from any of these areas: ARTC, ARTD, ARTF, ARTG, ARTL, ARTM, ARTP, ARTR, ARTT, ARTZ (3)

*Concentration Advanced Studio Courses (15 credit hours)*
Students must complete the advanced courses in their chosen concentration. Some courses are sequential and require B.F.A. status as one of the prerequisites.

ARTT 3190 - Digital Photography: Color, Light, and Lens (3)
ARTT 3191 - Camera and Light (3)
or ARTT 3193 - Alternative and Historic Photographic Media (3)
or ARTT 3195 - Visual Narrative (3)
ARTT 3xxx – Art: Photography Course (3)
1 additional 3000-level course from any of these areas: ARTC, ARTD, ARTF, ARTG, ARTL, ARTM, ARTP, ARTR, ARTT, ARTZ (3)
1 additional 3000-level course from any of these areas: ARTC, ARTD, ARTF, ARTG, ARTL, ARTM, ARTP, ARTR, ARTT, ARTZ (3)

***Senior Experience (9 credit hours)***
*Students should take the following courses simultaneously:*
ARTA 4600 - Senior Seminar (3)
ARTA 4901 - Senior Thesis I: Creative Research
ARTA 4902 - Senior Thesis II: Advanced Creative Practice (3)
or ARTL 4981 - Illustration Projects (3)

***B.F.A. Portfolio Review (1 credit hour)***
ARTA 3201 - B.F.A. Portfolio Review (1)

Students should register for ARTA 3201 after completion of ARTB 1201, ARTB 1202, ARTB 1203, ARTB 1204, and ARTB 1206. Internal transfers are required to have a cumulative 2.0 GPA. Art major required. Art Education requirements are listed under the section for the B.F.A. in Art with Concentration in Art Education program. Students compile a portfolio of work and written information to apply to any concentration in the B.F.A. in Art. A passing grade reflects acceptance of portfolio and admission into the B.F.A. degree program. Those denied may retake the course once. If denied a second time, student must move on to B.A. in Art status. Students must pass the course by 5th semester enrolled in the department or must move to B.A. in Art status. ARTA 3201 is graded on a Pass/No Credit basis.

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Academic Advising
All Art, Graphic Design, and Art History majors are required to meet with the Academic Advisor in the Department of Art and Art History each semester. Students will not be able to register for any course at UNC Charlotte without attending the mandatory advising meetings. The Academic Advisor is available year-round.

Career mentoring in studio, graphic design, art history, and art education is offered by individual faculty members who are active professionals in those areas of study. Contact is best done by email or telephone. Most professors are available for appointments from the first day of classes until the last day of classes each Fall and Spring semester. Requirements for degrees and minors, as well as 4-year B.F.A. calendars, are available in the Department of Art and Art History office and online at art.charlotte.edu.

Students seeking to confirm that General Education graduation requirements are met should use DegreeWorks in My UNC Charlotte (my.charlotte.edu). Those seeking confirmation of Art requirements must contact the Academic Advisor.

## Progression Requirements
To graduate with a B.F.A. in Art with Concentration in Photography, students must achieve a minimum GPA of 2.0 in all courses required for the major.

## Admission to Upper Division
Art majors must successfully complete ARTB 1201, ARTB 1202, ARTB 1203, ARTB 1204, and ARTB 1206, and then may enroll in ARTA 3201 (which may be repeated once). During the course, students assemble a portfolio of work and written documentation, which they submit to the B.F.A. Review Committee. Students may not take advanced studio courses without successfully completing this course and having gained acceptance into the B.F.A. program.

## Honors Program
For details about the Honors Program in Arts + Architecture, see the beginning of the College of Arts + Architecture section.

# Bachelor of Fine Arts in Art
## *with Concentration in Print Media*

This Bachelor of Fine Arts (B.F.A.) in Art provides in-depth study in the concentration area. Because it requires 79 credit hours of courses within the Department of Art and Art History, and because many of the concentration courses are sequential, it is important to begin taking three studio art courses and one art history course during the first semester of study. Students should not complete the General Education courses before beginning the courses in the major. This will delay time to graduation. Four-year schedules differ for each concentration and are available online or in the departmental office.

## Admission Requirements

### New Freshmen and Transfer Students

- See University Admission Requirements
- *Minimum GPA:* N/A
- *Declaration of Major*: Submit a digital portfolio of work for review. Check the department website for deadlines and FAQs on submission requirements. The department accepts new students from these groups for Fall semesters only. Students who are not admitted may re-submit their portfolio the following year. Only one re-submission is allowed.
- *Transferable Credit Hours*: All transfer courses are automatically reviewed by the Office of Undergraduate Admissions. Students seeking to appeal the official transfer designations for ARTx courses must provide the Department Academic Advisor with copies of the official course descriptions and a syllabus for each course requested for consideration. Portfolios of creative work from each of the individual studio courses may also be required.

### Currently Enrolled Students

- Minimum Cumulative GPA: 2.0
- Submit a digital portfolio of work for review. Check the department
- website for deadlines and FAQs on submission requirements. The department accepts new students from these groups for Fall semesters only. Students who are not admitted may re-submit their portfolio the following year. Only one re-submission is allowed.

## Degree Requirements

The Bachelor of Fine Arts (B.F.A.) in Art provides in-depth study with several concentration options; however, students may choose only one concentration area to pursue unless the second concentration area is Art Education (leading to K-12 licensure). If a student is pursuing a second major in Graphic Design, a maximum of 24 credits may be used towards Art major or concentration requirements. Students may take a maximum of 3 studio courses per semester without an approved academic petition to enroll in a 4th studio course.

### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

### Foreign Language Requirement (0-3 credit hours)

Students in this major are required to demonstrate proficiency in the language of their choice through the 1201 level. Proficiency can be demonstrated in one of the following ways:

- Completing the required coursework at UNC Charlotte
- Completing three years of the same foreign language in high school through level three
- Achieving a satisfactory score on the foreign languages placement test (in Spanish, French, or German)
- Through approved transfer or transient credit earned at a college or university accredited by an accepted accrediting body

### Major Courses (79 credit hours)

***Basic Foundation Studios (15 credit hours)***

ARTB 1201 - 2D Design (3)
ARTB 1203 - Drawing 1 (3)
ARTB 1202 - 3D Design (3)
ARTB 1204 - Digital Foundations (3)
ARTB 1206 - First Year Seminar (3)

***Art History Courses (15 credit hours)***

ARTH 1211 - Art History Survey I (3)
ARTH 1212 - Art History Survey II (3)
ARTH 2110 - Contemporary Art History (3)
ARTH xxxx - Art History Elective Course (3)
ARTH xxxx - Art History Elective Course (3)

***Elective Course (3 credit hours)***

Students should take any type of course in the department (except ARTE 2121). If an Art History course is selected, students automatically earn a Minor in Art History, but they will need to declare the minor in the Department of Art and Art History advising office.

***Advanced Elective Courses (6 credit hours)***

Two Department of Art and Art History courses are required at the 3000 or 4000 level. These courses have prerequisites at the 2000 level (or above).

***Concentration Courses (30 credit hours)***

*Concentration Introductory Studio Courses (15 credit hours)*

ARTR 2161 - Photo-Mechanical Print Media (3)
ARTR 2162 - Drawing/Expression in Print Media (3)
1 course from any of these areas: ARTC, ARTD, ARTF, ARTG, ARTL, ARTM, ARTP, ARTR, ARTT, ARTZ (3)
1 additional course from any of these areas: ARTC, ARTD, ARTF, ARTG, ARTL, ARTM, ARTP, ARTR, ARTT, ARTZ (3)
1 additional course from any of these areas: ARTC, ARTD, ARTF, ARTG, ARTL, ARTM, ARTP, ARTR, ARTT, ARTZ (3)

*Concentration Advanced Studio Courses (15 credit hours)*

Students must complete the advanced courses in their chosen concentration. Some courses are sequential and require B.F.A. status as one of the prerequisites.

ARTR 3162 - Large Format Printing and Mixed Media (3)
ARTR 3263 - Mixed-Media Bookmaking and Papermaking (3)
1 additional 3000-level course from any of these areas: ARTC, ARTD, ARTF, ARTG, ARTL, ARTM, ARTP, ARTR, ARTT, ARTZ (3)
1 additional 3000-level course from any of these areas: ARTC, ARTD, ARTF, ARTG, ARTL, ARTM, ARTP, ARTR, ARTT, ARTZ (3)
1 additional 3000-level course from any of these areas: ARTC, ARTD,

ARTF, ARTG, ARTL, ARTM, ARTP, ARTR, ARTT, ARTZ (3)

***Senior Experience (9 credit hours)***
*Students should take the following courses simultaneously:*
ARTA 4600 - Senior Seminar (3)
ARTA 4901 - Senior Thesis I: Creative Research
ARTA 4902 - Senior Thesis II: Advanced Creative Practice (3)
or ARTL 4981 - Illustration Projects (3)

***B.F.A. Portfolio Review (1 credit hour)***
ARTA 3201 - B.F.A. Portfolio Review (1)

Students should register for ARTA 3201 after completion of ARTB 1201, ARTB 1202, ARTB 1203, ARTB 1204, and ARTB 1206. Internal transfers are required to have a cumulative 2.0 GPA. Art major required. Art Education requirements are listed under the section for the B.F.A. in Art with Concentration in Art Education program. Students compile a portfolio of work and written information to apply to any concentration in the B.F.A. in Art. A passing grade reflects acceptance of portfolio and admission into the B.F.A. degree program. Those denied may retake the course once. If denied a second time, student must move on to B.A. in Art status. Students must pass the course by 5th semester enrolled in the department or must move to B.A. in Art status. ARTA 3201 is graded on a Pass/No Credit basis.

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Academic Advising
All Art, Graphic Design, and Art History majors are required to meet with the Academic Advisor in the Department of Art and Art History each semester. Students will not be able to register for any course at UNC Charlotte without attending the mandatory advising meetings. The Academic Advisor is available year-round.

Career mentoring in studio, graphic design, art history, and art education is offered by individual faculty members who are active professionals in those areas of study. Contact is best done by email or telephone. Most professors are available for appointments from the first day of classes until the last day of classes each Fall and Spring semester. Requirements for degrees and minors, as well as 4-year B.F.A. calendars, are available in the Department of Art and Art History office and online at art.charlotte.edu.

Students seeking to confirm that General Education graduation requirements are met should use DegreeWorks in My UNC Charlotte (my.charlotte.edu). Those seeking confirmation of Art requirements must contact the Academic Advisor.

## Progression Requirements
To graduate with a B.F.A. in Art with Concentration in Print Media, students must achieve a minimum GPA of 2.0 in all courses required for the major.

## Admission to Upper Division
Art majors must successfully complete ARTB 1201, ARTB 1202, ARTB 1203, ARTB 1204, and ARTB 1206, and then may enroll in ARTA 3201 (which may be repeated once). During the course, students assemble a portfolio of work and written documentation, which they submit to the B.F.A. Review Committee. Students may not take advanced studio courses without successfully completing this course and having gained acceptance into the B.F.A. program.

## Honors Program
For details about the Honors Program in Arts + Architecture, see the beginning of the College of Arts + Architecture section.

# Bachelor of Arts in Art History
The Bachelor of Arts (B.A.) in Art History requires 120 credit hours.

## Admission Requirements
**Freshmen and Transfers**
- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Other:* There is no portfolio submission to apply for this major.
- *Declaration of Major:* Students declare a Major in Art History by indicating this on the application to UNC Charlotte, or by filling out a Change of Major form to record Art History major status. Students already enrolled at UNC Charlotte must meet with the departmental Academic Advisor prior to declaring the major.
- *Transferable Credit Hours*: Determined by UNC Charlotte Undergraduate Admissions. Students seeking to apply coursework taken at other institutions to the Art History major must provide *copies of the official course description and a syllabus* for each course requested for consideration.
- All transfer courses are automatically reviewed by the Office of Undergraduate Admissions. Students seeking to appeal the official transfer designations for ARTx courses must provide the Department Academic Advisor with copies of the official course descriptions and a syllabus for each course requested for consideration. Portfolios of creative work from each of the individual studio courses may also be required.

Matriculated and transfer students who do not meet requirements for admission to the program because of special circumstances may petition the Art History Faculty for acceptance into the program.

**Currently Enrolled Students**
Currently enrolled UNC Charlotte students must have a minimum cumulative GPA of 2.0 and must meet with the departmental Academic Advisor prior to declaring the Art History major. Following this meeting, students may complete a Change of Major form to declare the Art History major. Current students who do not meet requirements for admission to the program because of special circumstances may petition the Art History Faculty for acceptance into the program.

## Degree Requirements

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Foreign Language Requirement (0-8 credit hours)**
Students in this major within the College of Arts + Architecture are required to demonstrate proficiency in the language of their choice through the 1202 level. For details, refer to the College of Arts + Architecture Foreign Language Requirements at the beginning of this section.

**Major Courses (18 credit hours)**
ARTB 1206 - First Year Seminar (3)
ARTH 1211 - Art History Survey 1 (3)
ARTH 1212 - Art History Survey 2 (3)
ARTH 2110 - Contemporary Art History (3)
ARTH 2614 - Writing Seminar in Art History (3)
ARTH 3114 - Art History Methods (3)

*Note: ARTH 1211 and ARTH 1212 are normally taken in the Freshman year; ARTH 2110 and ARTH 2614 are normally taken in the Sophomore year or as soon as possible after declaring the major. ARTH 3114 or ARTH 3115 (taught simultaneously) may be taken once the other major courses have been completed.*

**Elective Art History Courses (18 credit hours)**
These electives must be art history courses, in any offered subject. A maximum of 6 credit hours of 2000-level courses is permitted.

**Art History Senior Seminar (3 credit hours)**
ARTH 4609 - Art History Senior Seminar (3)

**Related Courses (3 credit hours)**
*Select one of the following*:*
AFRS 2105 - Black Images in the Media in the U.S. (3)
AFRS 2206 - African Literature, Music, and Art (3)
AMST 3090 - Topics in American Film (3)
AMST 3100 - Introduction to American Studies (3)
ANTH 2050 - Topics in Archaeology (3)
ANTH 2122 - Beliefs, Symbols, and Rituals (3)
ANTH 2151 - Introduction to Archaeology (3)
ARCH 4201 - Architectural History I: Prehistory-1750 (3)
ARCH 4202 - Architectural History II: 1750-Present (3)
ARTB 1201 - 2D Design (3)
ARTB 1202 - 3D Design (3)
ARTB 1203 - Drawing I (3)
ENGL 2106 - Film Criticism (3)
GERM 3660 - Survey of German Film (3)
HIST 3010 - Non-Western History and Culture through Film (3)
HIST 3011 - History and Culture through Film (3)
HIST 3281 - American Cities (3)
HIST 3381 - Introduction to Museums and Historic Sites (3)
HIST 3382 - Historic Preservation (3)
LTAM 3360 - Studies in Hispanic Film (3)
PHIL 3231 - Aesthetics (3)
POLS 3104 - Mass Media (3)
RUSS 3209 - Russian Civilization and Culture (3)
SOCY 2112 - Popular Culture (3)
THEA 2310 - Theatre History I (3)
THEA 2311 - Theatre History II (3)
WGST 2110 - Women and the Media (3)
WGST 3150 - Body Image (3)

**Any other course must be preapproved by the Coordinator of Art History and the Department Chair.*

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Academic Advising
All Art, Graphic Design, and Art History majors are required to meet with the Academic Advisor in the Department of Art and Art History each semester. Students will not be able to register for any course at UNC Charlotte without attending the mandatory advising meetings. The Academic Advisor is available year-round.

Career mentoring in studio, graphic design, art history, and art education is offered by individual faculty members who are active professionals in those areas of study. Contact is best done by email or telephone. Most professors are available for appointments from the first day of classes until the last day of classes each Fall and Spring semester. Requirements for degrees and minors, as well as 4-year B.F.A. calendars, are available in the Department of Art and Art History office and online at art.charlotte.edu.

Students seeking to confirm that General Education graduation requirements are met should use DegreeWorks in My UNC Charlotte (my.charlotte.edu). Those seeking confirmation of Art requirements must contact the Academic Advisor.

## Progression Requirements
Students must receive a grade of D or above in all courses applied to the major. Students cannot advance to the next course in a sequence until a grade of D or above is earned in prerequisite courses. Students must also meet the University's minimum 2.0 major GPA requirement to graduate.

## Special Policies or Requirements
To graduate with a B.A. in Art History, students must achieve a minimum GPA of 2.0 in all courses required for the major.

## Honors Program
For details about the Honors Program in Arts + Architecture, see the beginning of the College of Arts + Architecture section.

# Bachelor of Fine Arts in Graphic Design

The Bachelor of Fine Arts (B.F.A.) in Graphic Design provides in-depth study of the field of graphic design. The degree is a professional degree that prepares students to enter a career in design, advertising, marketing, or other fields of visual communication. It is important to begin taking three studio art courses and one art history course during the first semester of study.

## Admission Requirements

**Freshmen, Transfers, and Current UNC Charlotte Students not Majoring in Art**

- See University Admission Requirements
- *Minimum GPA:* 2.0 (for current UNC Charlotte students)
- Submit a digital portfolio of work for review. Check the department website for deadlines and FAQs on submission requirements.
- *Declaration of Major*: The department accepts new students from these groups for Fall semesters only. These students may not declare a Graphic Design major in Spring semesters.
- *Transferable Credit Hours*: All transfer courses are automatically reviewed by the Office of Undergraduate Admissions. Students seeking to appeal the official transfer designations for ARTx courses must provide the Department Academic Advisor with copies of the official course descriptions and a syllabus for each course requested for consideration. Portfolios of creative work from each of the individual studio courses may also be required.

**Current UNC Charlotte Students with a Major in Art**

- See University Admission Requirements
- *Minimum Cumulative GPA*: 2.0
- *Declaration of Major*: Consult with the Graphic Design Program Director

***Note: Most graphic design courses are open to Graphic Design majors only.***

## Degree Requirements

**College Prospect for Success Course (2 credit hours)**

*All new freshmen in the College of Arts + Architecture must take the following:*

COAA 1101 - Student Success in Architecture, Art, Performance, and Design (2)

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

Students intending to earn the B.F.A. in Graphic Design should take two ARTB 120x courses, and one ARTH course (ARTH 1211, ARTH 1212, or ARTH 2110) in the first semester of their freshman year. Proceed to take two ARTB 120x courses and one Introductory Major Course in the second semester of the freshman year. Sequencing these courses in the first year will aid a student in graduating in four years. All of the General Education courses should be organized around the Graphic Design major requirements. Prerequisite sequencing dictates the time to graduation, and all students should carefully review the course descriptions.

**Foreign Language Requirement (0-3 credit hours)**

Students in this major are required to demonstrate proficiency in the language of their choice through the 1201 level. Proficiency can be demonstrated in one of the following ways:

- Completing the required coursework at UNC Charlotte
- Completing three years of the same foreign language in high school through level three
- Achieving a satisfactory score on the foreign languages placement test (in Spanish, French, or German)
- Through approved transfer or transient credit earned at a college or university accredited by an accepted accrediting body

**Major Courses (78 credit hours)**

Students may take a maximum of 3 studio courses per semester without an approved academic petition to enroll in a 4th studio course. If a student is pursuing a second major in Art, a maximum of 24 credits may be used towards Graphic Design major requirements.

***Basic Foundation Studios (12 credit hours)***

ARTB 1206 - First Year Seminar (3)
ARTG 1201 - 2D Design for Graphic Design (3)
ARTG 1203 - Drawing for Graphic Design (3)
ARTG 1204 - Digital Foundations for Graphic Design (3)

***Art History Courses (12 credit hours)***

ARTH 1211 - Art History Survey I (3)
ARTH 1212 - Art History Survey II (3)
ARTH 2110 - Contemporary Art History (3)
ARTH xxxx - Art History Elective (3)

***Introductory Major Courses (12 credit hours)***

All 2000-level courses have prerequisites of certain Basic Foundation Studios (see section above). The 2000-level courses are prerequisites for 3000- and 4000-level courses. Make sure to check the prerequisites and course descriptions for each course.

ARTG 2180 - Design Thinking (3)
ARTG 2181 - Graphic Design I (3)
ARTG 2182 - Typography I (3)
ARTM 2105 - 4D (3)

***Introductory Studio Elective Courses (9 credit hours)***

2000-level elective with any of these prefixes: ARTC, ARTD, ARTF, ARTL, ARTP, ARTR, ARTT, ARTZ (3)
Second 2000-level elective with any of these prefixes: ARTC, ARTD, ARTF, ARTL, ARTP, ARTR, ARTT, ARTZ (3)
Third 2000-level elective with any of these prefixes: ARTC, ARTD, ARTF, ARTL, ARTP, ARTR, ARTT, ARTZ (3)

***Intermediate Major Courses (12 credit hours)***

All 3000-level courses have prerequisites of certain Introductory Major Courses (see section above). The 3000-level courses are prerequisites for 4000-level courses. Make sure to check the prerequisites and course descriptions for each course.

ARTG 3183 - Graphic Design II (3)
ARTG 3184 - Typography II (3)
ARTG 3185 - UX/UI Design Strategies (3)
ARTG 3186 - Communications Design (3)

***Advanced Major Courses (9 credit hours)***
All 4000-level courses have prerequisites of certain Intermediate Major Courses (see section above). Make sure to check the prerequisites and course descriptions for each course.

ARTG 4180 - Print Production (3)
ARTG 4182 - Design Research (3)
ARTG 4982 - Graphic Design Projects (3)

***Advanced Studio Elective Courses (9 credit hours)***
Three studio courses are required at the 3000- or 4000- level. These courses have prerequisites at the 2000- level (or above). In addition to regular studio courses from any concentration area: ARTA, ARTC, ARTD, ARTF, ARTL, ARTP, ARTR, ARTT, and ARTZ, you may also choose an internship, or independent study. Art History and Art Education courses do not count towards these requirements.

***Senior Seminar (3 credit hours)***
Students must have Senior status and be in the last one or two semesters in the degree program in order to register for the following course. It should be taken with the Graphic Design Projects course.

ARTA 4600 - Senior Seminar (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

### Progression Requirements
To graduate with a B.F.A. in Graphic Design, students must achieve a minimum GPA of 2.0 in all courses required for the major.

### Honors Program
For details about the Honors Program in Arts + Architecture, see the beginning of the College of Arts + Architecture section.

## Honors Program in Art History
The optional honors credential may be awarded to students with a minimum overall GPA of 3.0 and a GPA of at least 3.25 in Art History courses. Candidates must meet GPA requirements to apply to program and maintain them to graduate with the departmental honors designation.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students Majoring in Art History**

To receive Honors in Art History, a candidate must:

- See University Admission Requirements
- Approach an Art History faculty member with the desire to apply to the program and discuss the student's expected area of research/topic.
- After securing an Art History faculty member's agreement to serve as thesis advisor, students must register for ARTH 3115 (offered in Fall semesters only) and earn an A in that course. During the course, begin the Application to Candidacy process for graduating with honors, as directed by the Honors College.
- Earn a grade of A in "Problems in Art History" seminar.
- Register for ARTH 4700 and present an honors thesis based on in depth research in primary sources to a committee composed of three members, at least two of whom must be Art History faculty. An honors candidate may fulfill requirements 3 and 4 either in sequence, or concurrently during the same semester, as schedules demand.

Upon successful completion, the Honors notation will appear on a student's official transcript.

## Minor in Art History
The Minor in Art History requires 18 credit hours of ARTH courses. At least 12 of the credit hours towards the Minor in Art History must be taken at UNC Charlotte.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
- See University Admission Requirements
- Students with any major (except Art History) may apply for the Minor in Art History. A GPA of 2.0 is required for admission.
- Students pursuing a Minor in Art History must seek permission from instructors to register for any course with an "Art major" prerequisite. Permission is granted at the discretion of the instructor and is not guaranteed.

### Minor Requirements
**Required Courses (6 credit hours)**
ARTH 1211 - Art History Survey 1 (3)
ARTH 1212 - Art History Survey 2 (3)

**Elective Courses (12 credit hours)**
Select any four ARTH courses.

### Total = 18 Credit Hours

### Progression Requirements
Students must receive a grade of D or above in all courses applied to the minor. Students cannot advance to the next course in a sequence until a grade of D or above is earned in prerequisite courses. Students also must meet the University's minimum 2.0 minor GPA requirement to graduate.

# Department of Dance

dance.charlotte.edu

## Undergraduate Programs

- B.A. in Dance
  - Applied Dance
  - Dance Education
  - Performance, Choreography, and Theory
- Minor in Dance
- Professional Training Certificate in Dance
- Undergraduate Certificate in Dance, Advanced Studies
- Undergraduate Certificate in Musical Theatre *(see the individual Musical Theatre section)*

In the Department of Dance, students find rigorous dance training and academic preparation and the flexibility and support needed to pursue individual interests and career paths. Dance is an open access program. The curriculum develops students' performance, creative, critical, and collaborative abilities, preparing them with skills to enter dance and related professions. Faculty are diverse in their perspectives and trainings and innovative leaders in performance, choreography, dance scholarship, teacher training, and community engagement. Our professional advisors help students navigate double majors and minors. Dance study is enhanced by state-of-the-art facilities, the interdisciplinary nature of our College of Arts + Architecture, study abroad opportunities, and the activities of a vibrant campus and the bustling, arts-minded city of Charlotte. The University of North Carolina at Charlotte is an accredited institutional member of the National Association of Schools of Dance (NASD).

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

## Degree Programs

The Department of Dance awards a Bachelor of Arts degree in Dance. All students receive a well-rounded experience of dance while concentrating in one of three areas:

1) Applied Dance
2) Performance, Choreography, and Theory
3) Dance Education with preparation for North Carolina K-12 Fine and Performing Arts, Dance Teacher licensure

Students who have varied backgrounds and interests are highly valued for what they bring to the dance program. Dance advisors and faculty work carefully with students to create plans of study that suit individual needs.

Technique courses include classical ballet, modern dance, contemporary dance, Hip Hop, street dance, jazz, West African, African-Brazilian, and classical Indian dance. Students work with guest artists, faculty, and other students to perform in a 360-seat theater, 100-seat studio theater, and in community works. Dance student organizations perform and organize events in the department. Students' individual interests are nurtured through mentored projects. Students participate in faculty research projects on and off campus. Field studies include travel across the United States and to New York City to study and perform and study abroad dance programs in the United Kingdom and in Italy.

Students have access to internships, major arts and education institutions such as Charlotte Ballet and Blumenthal Performing Arts, and to professional touring artists. Alumni have varied careers, among them professional concert or commercial dancer, choreographer, K-12 educator, studio owner, college professor, community arts organizer, arts administrator, arts writer, arts marketer, dance therapist, and physical therapist.

The Department of Dance offers dance scholarships and work opportunities. Students attend summer programs on scholarship, including Martha Graham and Paul Taylor intensives and American Dance Festival.

## Bachelor of Arts in Dance *with Concentration in Applied Dance*

The B.A. in Dance with Concentration in Applied Dance offers a Dance major with fewer credit hours than the Performance, Choreography, and Theory concentration. Applied Dance may be helpful to Dance majors who wish to pursue coursework outside the department to prepare for careers such as dance therapy, arts marketing, and physical therapy for dance.

### Admission Requirements

#### Freshmen and Transfers

- See University Admission Requirements
- *Declaration of Major:* Students may declare the major at any time.
- *Transferable Credit Hours:* Determined by UNC Charlotte Undergraduate Admissions.

#### Currently Enrolled Students

- *Declaration of Major:* Students may declare the major at any time by completing a Change of Major form.

### Degree Requirements

A minimum of 120 total earned credit hours is required for the degree. The B.A. in Dance with Concentration in Applied Dance requires 44-45 credit hours of coursework in the major. No more than 10 credit hours (five courses) may be double-counted with another major, minor, or General Education requirements.

#### General Education Requirement (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

DANC 1502 - Global Arts/Humanities: Dance in Global Contexts (3)
or DANC 1512 - Local Arts/Humanities: Dance in the United States (3)

**Major Courses (47-49 credit hours)**

**Movement Practice Courses (22-23 credit hours)**
***African and African Diaspora Courses (6 credit hours)***
*Choose one of the following:*
DANC 2125 - African Dance (2)
or DANC 2128 - African-Brazilian Dance (2)
*Choose two of the following:*
DANC 2127 – Latin Dance Forms (2)
DANC 2130 – Foundations of Hip-Hop Dance (2)
DANC 2226 - Vernacular Jazz Dance (2)

*Ballet Courses (6 credit hours)*
Students are placed in courses appropriate to their level, with most students beginning the sequence at level I. Students complete a total of 6 hours of ballet courses.
DANC 1209 - Ballet for Majors IA (2)
or DANC 2209 Ballet for Majors IIA (2)
or DANC 3210 Ballet for Majors III (2)
DANC 1210 - Ballet for Majors IB (2)
or DANC 2210 Ballet for Majors IIB (2)
or DANC 3210 Ballet for Majors III (2)
DANC 2209 - Ballet for Majors IIA (2)
or DANC 2210 - Ballet for Majors IIB (2)
or DANC 3210 - Ballet for Majors III (2)

*Modern Dance Courses (6 credit hours)*
DANC 1217 - Modern Dance for Majors IA (2)
DANC 1218 - Modern Dance for Majors IB (2)
DANC 2217 - Modern Dance for Majors IIA (2)
or DANC 2218 - Modern Dance for Majors IIB (2)

*Advanced Movement Practice Courses (4-5 credit hours)*
*Select one area of focus and complete both courses in that area:*

**Advanced African Diaspora Dance Courses (4-5 credit hours)**
*Choose two of the following:*
DANC 3131 – Hip Hop and Street Dance (3)
DANC 3253 - Black Dance in the Americas (2)
DANC 4252 - Origins of Jazz: Ring Shout Dance Traditions (3)

**Advanced Ballet Courses (4 credit hours)**
DANC 3210 - Ballet for Majors III (2)
Additional course in Ballet at the 2000 level or above

**Advanced Modern Dance Courses (4 credit hours)**
DANC 3218 - Modern Dance for Majors III (2)
or DANC 3229 - Contact Improvisation (2)
Additional course in Modern Dance at the 2000 level or above

***Creative Process Courses (9 credit hours)***
DANC 1280 - Improvisation (3)
DANC 2216 - Choreography I (3)
DANC 3230 - Choreography II (3)

***Dance Theory Courses (9 credit hours)***
DANC 2119 - Anatomy for Dancers (3)
DANC 3221 - Dance History, Theory, and Critical Thinking (3)
or DANC 3222 - Dance History, Theory, and Critical Thinking II (3)
DANC 3227 - Ballet Pedagogy (3)
or DANC 4110 - Communicating Across the Dance Discipline (3)
or DANC 4250 - Dance in Community (3)
or DANC 4328 - Teaching Dance: Theories and Practices (3)

***Performance and Production Courses (4-5 credit hours)***
DANC 2402 - Performance Practicum (2)
or DANC 2403 - Dancing for Choreographers (1)
DANC 2404 - Introduction to Dance Production (3)

***Music Fundamentals Course (2 credit hours)***
DANC 2228 - Music and Dance (2)

**Dance Capstone Course (1 credit hour)**
DANC 4802 – Applied Dance Capstone (1)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

### Progression Requirements
- All DANC courses must be completed with no more than one grade of D.

## Bachelor of Arts in Dance *with Concentration in Dance Education*
The Bachelor of Arts (B.A.) in Dance with a Concentration in Dance Education prepares students for K-12 Dance Education licensure in North Carolina. It is designed for students who wish to become dance teachers in public schools, but also benefits dancers who want to teach in studios or community centers. Student Teaching is possible in cooperation with the public schools of the Charlotte area.

### Admission Requirements
Students who meet the University's admissions requirements are admissible to the Dance B.A. major. Admission to the Dance Education Concentration is dependent on meeting progression requirements in the Progression Requirements section below.

**Freshmen and Transfers**
- See University Admission Requirements
- *Declaration of Major:* Students seeking K-12 Dance Education licensure may declare the Dance major at any time by meeting with a Dance advisor.
- *Transferable Credit Hours*: Determined by UNC Charlotte Undergraduate Admissions

**Currently Enrolled Students**
*Declaration of Major*. Students may declare the Dance major at any time by meeting with a Dance advisor.

## Degree Requirements

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information. Students in this major should take the following courses that meet General Education requirements and also satisfies requirements in the major:

DANC 1502 - Global Arts/Humanities: Dance in Global Contexts (3)
or DANC 1512 - Local Arts/Humanities: Dance in the United States (3)
EDUC 1511 - Local Social Science: Public Education and Schooling in the U.S. (3 to 4)

**Major Courses (45-46 credit hours)**

***Movement Practice Courses (18 credit hours)***

***African and African Diaspora Courses (6 credit hours)***

*Choose one of the following:*
DANC 2125 - African Dance (2)
or DANC 2128 - African-Brazilian Dance (2)
*Choose two of the following:*
DANC 2127 – Latin Dance Forms (2)
DANC 2130 – Foundations of Hip-Hop Dance (2)
DANC 2226 - Vernacular Jazz Dance (2)

***Ballet Courses (6 credit hours)***

Students are placed in courses appropriate to their level, with most students beginning the sequence at level I. Students complete a total **of** 6 hours of ballet courses.
DANC 1209 - Ballet for Majors IA (2)
or DANC 2209 Ballet for Majors IIA (2)
or DANC 3210 Ballet for Majors III (2)
DANC 1210 - Ballet for Majors IB (2)
or DANC 2210 Ballet for Majors IIB (2)
or DANC 3210 Ballet for Majors III (2)
DANC 2209 - Ballet for Majors IIA (2)
or DANC 2210 - Ballet for Majors IIB (2)
or DANC 3210 - Ballet for Majors III (2)

*Modern Dance Courses (6 credit hours)*

DANC 1217 - Modern Dance for Majors IA (2)
DANC 1218 - Modern Dance for Majors IB (2)
DANC 2217 - Modern Dance for Majors IIA (2)
or DANC 2218 - Modern Dance for Majors IIB (2)

***Creative Process Courses (9 credit hours)***

DANC 1280 - Improvisation (3)
DANC 2216 - Choreography I (3)
DANC 3230 - Choreography II (3)

***Dance Theory Courses (9 credit hours)***

DANC 2119 - Anatomy for Dancers (3)
DANC 3221 - Dance History, Theory, and Critical Thinking (3)
DANC 3222 - Dance History, Theory, and Critical Thinking II (3)

***Dance Pedagogy Courses (3 credit hours)***

*Select one of the following:*
DANC 3227 - Ballet Pedagogy (3)
DANC 4250 - Dance in Community (3)
DANC 4328 - Teaching Dance: Theories and Practices (3)

***Performance and Production Courses (4-5 credit hours)***

DANC 2402 - Performance Practicum (2)
or DANC 2403 - Dancing for Choreographers (1)
DANC 2404 - Introduction to Dance Production (3)

***Music Fundamentals Course (2 credit hours)***

DANC 2228 - Music and Dance (2)

**Concentration Courses (32-33 credit hours)**

DANC 4227 - Dance Education Methods for the Elementary School (3)
DANC 4257 - Dance Education Methods for the Secondary School (3)
DANC 4466 - Dance Curriculum Design (3)
DANC 4467 - Student Teaching/Seminar: K-12 Fine and Performing Arts: Dance (12)
EDUC 4290 - Inclusion of Students with Varied Learning Needs (3)
SPED 2100 - Exceptionality in Schools and Society (3)
DANC 3232 - Digital Skills for Artists (3)
or ELDT 4100 - Foundations for Effective Technology Integration (3)
MDLG 3130 - The Early Adolescent Learner (3)
or MDSK 3100 - The Connected Classroom (3)
or MDSK 4210 - Classroom Leadership (2)
or SECD 4140 - Adolescence and Secondary Schools (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements

To be formally admitted to the Dance Education concentration, students must achieve the following:

- Minimum GPA of 2.75 overall GPA
- Pre-Major/Prerequisite Courses:
  - EDUC 2100 with grade of C or above
  - SPED 2100 with grade of C or above
- Passing scores on Praxis Core (or prove exemption via test scores)
- Application to Teacher Education (includes a clear background check and signed professional dispositions statement)
- To progress to student teaching, students must earn a minimum 2.75 GPA in all Dance and Education courses and a minimum 2.5 cumulative GPA overall. A minimum grade of C is required in all major courses, with no more than one grade of D allowed in a Dance course. Additionally, students must earn a grade of P in Student Teaching and a minimum edTPA score of 38 to be recommended for licensure.

## Admission to Upper Division

After being accepted to Teacher Education, students may progress to upper level Dance Education coursework.

### Honors Program
For details about the Honors Program in Arts + Architecture, see the beginning of the College of Arts + Architecture section.

### Internship
Teacher education candidates participate in the yearlong internship during their final year of the program. During the first semester, students spend one day per week in an assigned classroom while completing coursework on campus. During the second semester of the internship, students complete full-time Student Teaching in the same classroom. Applications for this yearlong internship are due two semesters before Student Teaching.

## Bachelor of Arts in Dance *with Concentration in Performance, Choreography, and Theory*
The Bachelor of Arts in Dance with Concentration in Performance, Choreography and Theory is a comprehensive program of classes in technique and performance, creative process, production, history, culture, and theory. Dance students begin their study in the freshman year. In addition to coursework, students have opportunities to perform in two fully produced concerts a year choreographed by faculty and guest artists.

### Admission Requirements
#### Freshmen and Transfers
- See University Admission Requirements
- *Transferable Credit Hours:* Determined by UNC Charlotte Undergraduate Admissions.

#### Currently Enrolled Students
- *Declaration of Major:* Students may declare the major at any time by completing a Change of Major form.

### Degree Requirements
A Major in Dance with a Concentration in Performance, Choreography, and Theory leading to the B.A. degree requires 120 credit hours, including 52-53 credit hours of dance content coursework.

#### General Education Courses (31-32 credit hours)
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information. Students in this major should take the following course that meets General Education requirements and also satisfies requirements in the major:

DANC 1502 - Global Arts/Humanities: Dance in Global Contexts (3)
or DANC 1512 - Local Arts/Humanities: Dance in the United States (3)

#### Major Courses (54-58 credit hours)
***Movement Practice Courses (22-23 credit hours)***

***African and African Diaspora Courses (6 credit hours)***
*Choose one of the following:*
DANC 2125 - African Dance (2)
or DANC 2128 - African-Brazilian Dance (2)
*Choose two of the following:*
DANC 2127 – Latin Dance Forms (2)
DANC 2130 – Foundations of Hip-Hop Dance (2)
DANC 2226 - Vernacular Jazz Dance (2)

*Ballet Courses (6 credit hours)*
Students are placed in courses appropriate to their level, with most students beginning the sequence at level I. Students complete a total **of** 6 hours of ballet courses.
DANC 1209 - Ballet for Majors IA (2)
or DANC 2209 Ballet for Majors IIA (2)
or DANC 3210 Ballet for Majors III (2)
DANC 1210 - Ballet for Majors IB (2)
or DANC 2210 Ballet for Majors IIB (2)
or DANC 3210 Ballet for Majors III (2)
DANC 2209 - Ballet for Majors IIA (2)
or DANC 2210 - Ballet for Majors IIB (2)
or DANC 3210 - Ballet for Majors III (2)

*Modern Dance Courses (6 credit hours)*
DANC 1217 - Modern Dance for Majors IA (2)
DANC 1218 - Modern Dance for Majors IB (2)
DANC 2217 - Modern Dance for Majors IIA (2)
or DANC 2218 - Modern Dance for Majors IIB (2)

*Advanced Movement Practice Courses (4-5 credit hours)*
*Select one area of focus and complete both courses in that area:*

1) Advanced African Diaspora Dance Courses (4-5 credit hours)
*Choose two of the following:*
DANC 3131 - Hip Hop and Street Dance (3)
DANC 3253 - Black Dance in the Americas (2)
DANC 4252 - Origins of Jazz: Ring Shout Dance Traditions (3)

2) Advanced Ballet Courses (4 credit hours)
DANC 3210 - Ballet for Majors III (2)
Additional course in Ballet at the 2000 level or above

3) Advanced Modern Dance Courses (4 credit hours)
DANC 3218 - Modern Dance for Majors III (2)
or DANC 3229 - Contact Improvisation (2)
Additional course in Modern Dance at the 2000 level or above

#### Creative Process Courses (9 credit hours)
DANC 1280 - Improvisation (3)
DANC 2216 - Choreography I (3)
DANC 3230 - Choreography II (3)

#### Dance Theory Courses (12 credit hours)
DANC 2119 - Anatomy for Dancers (3)
DANC 3221 - Dance History, Theory, and Critical Thinking (3)
DANC 3222 - Dance History, Theory, and Critical Thinking II (3)
DANC 4110 - Communicating Across the Dance Discipline (3)

#### Dance Pedagogy Course (3 credit hours)
*Select one of the following:*

DANC 3227 - Ballet Pedagogy (3)
DANC 4250 - Dance in Community (3)
DANC 4328 - Teaching Dance: Theories and Practices (3)

***Performance and Production Courses (6-9 credit hours)***
*Performance Courses (3-6 credit hours)*
*Select a total of 3 courses from the following repeatable courses:*
DANC 2402 - Performance Practicum (2)
DANC 2403 - Dancing for Choreographers (1)

*Production Courses (3 credit hours)*
DANC 2404 - Introduction to Dance Production (3)

***Music Fundamentals Course (2 credit hours)***
DANC 2228 - Music and Dance (2)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

### Progression Requirements
- All DANC courses must be completed with no more than one grade of D.

### Honors Program
For details about the Honors Program in Arts + Architecture, see the beginning of the College of Arts + Architecture section.

## Minor in Dance
### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

### Minor Requirements
A Minor in Dance consists of 18 credit hours.

**Movement Practice Courses (8 credit hours)**
*Take one course in each area plus one additional Movement Practice course.*

***African and African Diaspora Course***
DANC 2125 - African Dance (2)
DANC 2127 - Latin Dance Forms (2)
DANC 2128 – African-Brazilian Dance (2)
DANC 2130 – Foundations of Hip-Hop Dance (2)
DANC 2226 - Vernacular Jazz Dance (2)

***Ballet Course***
DANC 1212 - Ballet I (2)

***Modern Dance Course***
DANC 1214 - Modern Dance I (2)

***Additional Movement Practice Course***
*Take one additional course from those above (may be repeated for credit) or one of the following:*

DANC 1213 – Ballet II (2)
DANC 1215 – Modern Dance II (2)
DANC 2126 – Tap Dance (2)
DANC 2129 – Odissi Dance (2)
DANC 2227 – Contemporary Jazz Dance (2)

**Dance Theory Courses (3 credit hours)**
*Choose one:*
DANC 1502 - Global Arts/Humanities: Dance in Global Contexts (3)
DANC 1512 - Local Arts/Humanities: Dance in the United States (3)

**Dance Performance and Production Courses (3 credit hours)**
*Select three credits from the following. All courses may be repeated for credit.*
DANC 2402 - Performance Practicum (2)
DANC 2403 - Dancing for Choreographers (1)
THEA 2400 – Technical Theatre Practice (1)

**Dance Elective Courses (4 credit hours)**
*Complete additional Dance courses from among those open to non-majors.*

### Total = 18 Credit Hours

### Progression Requirements
All DANC courses must be completed with no more than one grade of D.

## Professional Training Certificate in Dance
In conjunction with Charlotte's professional dance company, Charlotte Ballet, UNC Charlotte offers a Professional Training Certificate in Dance for students specializing in ballet performance. This unique partnership provides the student an association with a professional dance company while earning a college degree. The 16 credit hours earned in the Certificate are included in the requirements for the baccalaureate degree. Pre-college credit is also available to high school students.

Open by audition to a student in any academic major, the two-year Professional Training Certificate in Dance provides training with teachers at Charlotte Ballet. Rehearsal and performance opportunities are available in addition to classes in ballet technique, pas de deux, pointe, and variations. The Charlotte Ballet is an exceptional company whose Artistic Director, Alejandro Cerrudo, includes both classical and contemporary works in the repertory.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
- See University Admission Requirements
- Open by audition to a student in any academic major.

### Certificate Requirements
DANC 3201 - Professional Training Certificate in Dance (4)
DANC 3202 - Professional Training Certificate in Dance (4)

DANC 4201 - Professional Training Certificate in Dance (4)
DANC 4202 - Professional Training Certificate in Dance (4)

### Certificate Total = 18 Credit Hours

## Undergraduate Certificate in Dance, Advanced Studies

The Certificate for Advanced Dance Studies prepares dance students to work as community artists, educators, and advocates. It offers students who have completed dance degree requirements for the B.A. in Dance with a Concentration in Performance, Choreography, and Theory, or a Concentration in Dance Education the opportunity to deepen their work in performance, choreography, and related practices and to complete a culminating project.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

### Certificate Requirements

The certificate requires 20-21 credit hours beyond the requirements for the B.A. in Dance with Concentration in Performance, Choreography, and Theory or a B.A. in Dance with Concentration in Dance Education, unless otherwise noted.

**Movement Practice Courses (4 credit hours)**
Select a total of 4 credit hours of movement practice courses at the 2000 or 3000 level with mentor approval.

**Performance, Choreography, and Teaching Practicum Courses (4-5 credit hours)**
*Choose two courses from the following:*
DANC 2402 - Performance Practicum (2)
DANC 3402 – Advanced Performance Practicum (2)
DANC 4401 - Dance Teaching Practicum (2)
DANC 4402 - Choreography III: Choreography and Production Practicum (3)

**Career Preparation and Leadership Course (6 credit hours)**
*Choose two courses from the following:*
COMM 3136 - Leadership, Service, and Ethics (3)
DANC 3232 - Digital Skills for Artists (3) *(May be counted toward the requirements for the Dance Education concentration)*
DANC 4130 - The Business of Dance (3)
DANC 4250 - Dance in Community (3)
DANC 4400 - Internship in Dance (1 to 6)
THEA 2221 - Stage Management (3)
Other course with a Service Learning (SL) designation

**Capstone Courses (6 credit hours)**
Students should complete DANC 4801 for 3 credit hours in the semester prior to DANC 4800 as preparation for the capstone project.

DANC 4800 - Dance Capstone Project (3)
DANC 4801 – Independent Study (1 to 6)

### Special Policies or Requirements

Advanced Dance Studies students must identify a faculty mentor in consultation with the Department Chair.

### Certificate Total = 20-21 Credit Hours

# Department of Music

music.charlotte.edu

## Undergraduate Programs

- B.A. in Music
  - Applied Music
  - Contemporary Practices and Cultural Rhetoric
- Bachelor of Music
  - Composition
  - Elective Study in an Outside Field
  - Jazz Studies
  - Music Education, Choral/General
  - Music Education, Instrumental/General
  - Performance, Instrumental
  - Performance, Vocal
- Minor in Music Performance
- Undergraduate Certificate in Jazz
- Undergraduate Certificate in Musical Theatre *(see the individual Musical Theatre section)*

The Department of Music is a community of nationally recognized artists, scholars, and pedagogues who are committed to preparing students of diverse backgrounds and interests for healthy, productive, and successful lives as musical advocates and professionals. The faculty leverage their location within both a major research university and a vibrant cultural metropolis to provide intellectual and artistic leadership through excellence in teaching, scholarly and creative activity, and service.

Located in a state-of-the-art teaching and performance facility, the department offers majors and minors intensive professional programs in all wind, string, and percussion instruments, in addition to world-class studies in piano, voice, opera and musical theatre, choral music, and jazz. The department offers numerous opportunities for UNC Charlotte students from all majors in all colleges to participate in bands, choirs, orchestras, and jazz ensembles.

Music students at UNC Charlotte take full advantage of the incomparable experience of studying music in a vibrant cosmopolitan city. As teachers, they gain real-world experience by working alongside many of the finest music educators in the country. As performers, they frequently appear in churches, jazz clubs, and other venues throughout the Charlotte region.

Partnerships with local arts organizations such as the Charlotte Symphony Orchestra and Opera Carolina allow our students to take master classes with world-renowned visiting artists, and participate in professional performances. Students even have opportunities to hold jobs and internships with these organizations and others throughout the Charlotte region.

A major in music offers students comprehensive training in composition, education, jazz studies, performance, or liberal arts. Most music graduates move directly into the profession as teachers or performers, while others opt for advanced training in graduate programs or internships with professional organizations. A number of alums have used their undergraduate training as a foundation for other professions, including medicine and law.

UNC Charlotte is a member of the National Association of Schools of Music. The music education program is accredited by the National Council for Accreditation of Teacher Education and approved by the North Carolina Department of Public Instruction.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

### Admission Requirements

All students who wish to major or minor in music must audition and complete a series of placement examinations following acceptance (see the "Admissions" link at music.charlotte.edu for details). Each student majoring in music, regardless of degree plan or concentration, is required to take private lessons (Applied Music), perform in an approved primary ensemble, and take Performance Class every semester enrolled.* For specific degree requirements, including those for the Sophomore Review and the appropriate culminating experience(s), please review the *Department of Music Student Handbook*.

**These requirements are not applicable for music education majors during the semester they are enrolled in Student Teaching.*

## Bachelor of Arts in Music, *Applied Music Concentration*

The Bachelor of Arts in Music with a concentration in Applied Music is designed for students who want to combine training in music with the exploration of other disciplines.

### Admission Requirements

**Freshmen and Transfers**

- See University Admission Requirements
- *Minimum GPA:* n/a
- *Transferable Credit Hours:* Determined by UNC Charlotte Undergraduate Admissions.
- *Declaration of Major:* A formal audition is required for acceptance to the Music major (see the Music Department "Admissions" website for audition processes and dates). Students are first admitted as Pre-Music. If the student is approved for acceptance after the audition, their major is changed to Music, and they may proceed with major coursework.

**Currently Enrolled Students**

- A formal audition is required for acceptance to the Music major. Students already enrolled at UNC Charlotte access the audition information on the Music Department "Admissions" website and follow the current student instructions for securing their audition. If the student is approved for acceptance after the audition, their major is changed to Music, and they may proceed with major coursework. Students must indicate Music Education at the time of audition to avoid a delayed graduation date.

## Degree Requirements

The curriculum consists of 31 credit hours of General Education or 33 credit hours if COAA 1101 is included in General Education; 23 credit hours of musicianship courses, including music theory, ear training, piano, and music history; 18 credit hours of performance courses and music electives, including applied lessons and ensembles, and 38 credit hours of electives-all of which can be applied to a minor or second major. For specific requirements, refer to the *Department of Music Student Handbook*. The culminating experience for this degree is either an academic Senior Project or Senior Music Internship.

For the Senior Project, students must complete a minimum of 3 credit hours of MUSC 4800 consisting of a single project. Students may repeat MUSC 4800 to achieve this requirement. In keeping with the diverse nature of scholarly/creative activities in music, the final product may vary to include a historical, theoretical, and/or technical research paper; a portfolio of original compositions; a lecture-recital; or a project of similar scope. In all cases, some written documentation of the ideas and process involved is required.

For the Senior Internship, students must complete a minimum of three credit hours of MUSC 4410. Students may repeat MUSC 4410 to achieve this requirement.

**College Prospect for Success Course (2 credit hours)**

*All new freshmen in the College of Arts + Architecture must take the following:*

COAA 1101 - Student Success in Architecture, Art, Performance, and Design (2)

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Major Courses (41 credit hours)**

***Musicianship Courses (23 credit hours)***

MUSC 1230 - Musicianship I (3)
MUSC 1231 - Musicianship II (3)
MUSC 1233 - Class Piano I (1)
MUSC 1234 - Class Piano II (1)
MUSC 2230 - Musicianship III (3)
MUSC 3170 - Western Classical Music: Antiquity-Baroque (3)
MUSC 3171 - Western Classical Music: Classic-Present (3)

*Select one from the following:*

MUSC 3129 - Music Theories of the World (3)
MUSC 3131 - Popular Music Songwriting (3)
MUSC 3132 - Advanced Tonal Aural Skills (3)
MUSC 3133 - Advanced Post-Tonal Aural Skills (3)

MUSC 4410 - Senior Music Internship (2 to 4) *(a minimum of 3 credit hours is required)*
or MUSC 4800 - Senior Project Preparation (1 to 3) *(a minimum of 3 credit hours is required)*

***Performance and Music Elective Courses (16-18 credit hours)***

MUPF 11xx - Primary Ensembles (1) *(6 semesters)*
MUPF 11xx - Secondary Ensembles (1) *(2 semesters)*
MUPF 12xx - Applied Music (1 to 2) *(6-8 semesters)*
MUSC 1300- Performance Class (0) *(4 semesters)*
Any MUSC or MUPF course(s) at the 3000- or 4000-level (1)
MUSC 3100 Introduction to Music Technology

***Diction Courses (0-2 credit hours)***

*These courses are required only for students enrolled in MUPF 1253.*

MUSC 2137 - Phonetics and Articulation for Singers I: Italian and Latin Diction (1)
MUSC 2138 - Phonetics and Articulation for Singers II: English Diction (1)

**Restricted Elective Courses (30 credit hours)**

Select 26 credit hours outside the Department of Music. Courses may be used to complete a Minor or Second Major.

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements

Most Music courses require grades of C or above to progress to subsequent levels of study. All required Music courses must be passed with grades of C or above to graduate. For specific requirements, refer to the *Department of Music Student Handbook*.

All students are required to pass a Sophomore Review (typically pursued the Spring semester of a student's second year in the program). The B.A. Sophomore Review process consists of a Musicianship Evaluation and an Interview in preparation for the capstone project or experience. Students who fail their Sophomore Review will be eligible to initiate a new Review the following semester.

## Honors Program

For details about the Honors Program in Arts + Architecture, see the beginning of the College of Arts + Architecture section.

# Bachelor of Arts in Music, *Contemporary Practices & Cultural Rhetoric Concentration*

The Bachelor of Arts in Music with a Concentration in Contemporary Practices & Cultural Rhetoric is designed for students who want to combine training in music with the exploration of other disciplines.

All program-level Admissions and Progression Requirements are in

addition to the University of North Carolina at Charlotte Admission Requirements.

## Admission Requirements

### Freshmen and Transfers

- See University Admission Requirements
- *Minimum GPA:* n/a
- *Transferable Credit Hours:* Determined by UNC Charlotte Undergraduate Admissions.
- *Declaration of Major:* A personal statement is required for acceptance to the Bachelor of Arts in Music with a Concentration in Contemporary Practices & Cultural Rhetoric (see the Music Department "Admissions" website for submission processes and details). Students are first admitted as Pre-Music. If the student is approved for acceptance after submitting their personal statement, their major is changed to Music, and they may proceed with major coursework.

### Currently Enrolled Students

A personal statement is required for acceptance to the Bachelor of Arts in Music with a Concentration in Contemporary Practices & Cultural Rhetoric. Students already enrolled at UNC Charlotte access the application information on the Music Department "Admissions" website and follow the instructions for submitting their personal statement. If the student is approved for acceptance, their major is changed to Music, and they may proceed with major coursework.

## Degree Requirements

The curriculum consists of 31 credit hours of General Education or 33 credit hours if COAA 1101 is included in General Education; 30 credit hours of musicianship courses, including music theory, ear training, and music history and literature; 12 credit hours of performance courses and music electives, including group applied instruction and ensembles; and 42 credit hours of electives, all of which can be applied to a minor or second major. For specific requirements, refer to the *Department of Music Student Handbook*. The culminating experience for this degree is either an academic Senior Project or Senior Music Internship.

For the Senior Project, students must complete a minimum of 3 credit hours of MUSC 4800 consisting of a single project. Students may repeat MUSC 4800 to achieve this requirement. In keeping with the diverse nature of scholarly/creative activities in music, the final product may vary to include a historical, theoretical, and/or technical research paper; a portfolio of original compositions; a lecture-recital; or a project of similar scope. In all cases, some written documentation of the ideas and process involved is required.

For the Senior Internship, students must complete a minimum of three credit hours of MUSC 4410. Students may repeat MUSC 4410 to achieve this requirement.

### College Prospect for Success Course (2 credit hours)

*All new freshmen in the College of Arts + Architecture must take the following:*

COAA 1101 - Student Success in Architecture, Art, Performance, and Design (2)

### General Education Courses (31 credit hours)

For details on required courses, refer to the General Education Program.

### Major Courses (42 credit hours)

***Musicianship Courses (30 credit hours)***

MUSC 1102 - Fundamentals of Musicianship (3)
MUSC 1230 - Musicianship I (3)
MUSC 1231 - Musicianship II (3)

MUSC 1502 - Global Arts/Humanities: Music in Global Communities (3)
or MUSC 1512 - Local Arts/Humanities: Music in U.S. Communities (3)
MUSC 3172 - Western Classical Music Literature (3)
MUSC 4410 - Senior Music Internship (2 to 4) *
or MUSC 4800 - Senior Project Preparation (1 to 3) *

** A minimum of 3 credit hours is required*

### Musicianship Electives (12 credit hours)

*Select from the following:*

AFRS 2103 - Introduction to Hip Hop (3)
AFRS 2107 - Global Hip Hop (3)
AFRS 2206 - African Literature, Music, and Art (3)
COAA 3150 - Musical Theatre History (3)
HIST 3239 - African American Music: History and Culture (3)
MUSC 1104 - History of Rock (3)
MUSC 1502 - Global Arts/Humanities: Music in Global Communities (3) *(f not previously taken)*
or MUSC 1512 - Local Arts/Humanities: Music in U.S. Communities (3) *(f not previously taken)*
MUSC 2230 - Musicianship III (3)
MUSC 3129 - Music Theories of the World (3)
MUSC 3131 - Popular Music Songwriting (3)
MUSC 3170 - Western Classical Music: Antiquity-Baroque (3)
MUSC 3171 - Western Classical Music: Classic-Present (3)
MUSC 4298 - Jazz History (3)
PHIL 3275 - Hip Hop as Redescription (3)

### Performance and Music Elective Courses (12 credit hours)

### Group Applied Instruction (4 credit hours)

*Select from the following:*

MUPF 1281 - Introduction to Percussion (1)
MUPF 1282 - Percussion (1)
MUPF 1283 - Introduction to Piano Keyboard (1)
MUPF 1284 - Piano Keyboard (1)
MUPF 1285 - Introduction to Guitars (1)
MUPF 1286 - Guitars (1)
MUPF 1287 - Introduction to Vocal Performance (1)
MUPF 1288 - Vocal Performance (1)

### Ensembles (4 credit hours)

*Select from the following:*

MUPF 1115 - Guitar Ensemble (1)
MUPF 1122 - Men's Chorus (Mallard Creek Chorale) (1)
MUPF 1123 - Women's Chorus (Charlotteans) (1)
MUPF 1125 - Gospel Choir (1)
MUPF 1153 - Group Percussion Ensemble (1)
MUPF 1155 - Piano Ensemble (1)

### Music Electives (4 credit hours)

*Select from the following:*
*Required Elective*

MUSC 3100 - Introduction to Music Technology (1)

*Select 3 credits from the following:*
DANC 2228 - Music and Dance (2)
MUSC 1403 - Audio Engineering Practicum (1)
MUSC 2101 - Introduction to Music Business (2)
MUSC 2235 - Jazz Improvisation I (2)
MUSC 4234 - Jazz Arranging and Composition (3)
MUSC 4235 - Orchestration and Arranging (2)

**Restricted Elective Courses (30 credit hours)**
Select 30 credit hours outside the Department of Music. Courses may be used to complete a Minor or Second Major.

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements
Most Music courses require grades of C or above to progress to subsequent levels of study. All required Music courses must be passed with grades of C or above to graduate. For specific requirements, refer to the *Department of Music Student Handbook*.

All students are required to pass a Sophomore Review (typically pursued the Spring semester of a student's second year in the program). The B.A. Sophomore Review process consists of a Musicianship Evaluation and an Interview in preparation for the capstone project or experience. Students who fail their Sophomore Review will be eligible to initiate a new Review the following semester.

## Honors Program
For details about the Arts + Architecture Honors Program, visit the AAHP program page (coaa.charlotte.edu/college/honors/).

# Bachelor of Music *with Concentration in Composition*
The Bachelor of Music (B.M.) with a Concentration in Composition is designed for students who are planning careers as composers of contemporary art music.

## Admission Requirements
**Freshmen and Transfers**
- See University Admission Requirements
- *Minimum GPA:* n/a
- *Transferable Credit Hours:* Determined by UNC Charlotte Undergraduate Admissions.
- *Declaration of Major:* A formal audition is required for acceptance to the Music major (see the Music Department "Admissions" website for audition processes and dates). Students are first admitted as Pre-Music. If the student is approved for acceptance after the audition, their major is changed to Music, and they may proceed with major coursework.

**Currently Enrolled Students**
- A formal audition is required for acceptance to the Music major. Students already enrolled at UNC Charlotte access the audition information on the Music Department "Admissions" website and follow the current student instructions for securing their audition. If the student is approved for acceptance after the audition, their major is changed to Music, and they may proceed with major coursework. Students must indicate Music Education at the time of audition to avoid a delayed graduation date.

## Degree Requirements
The curriculum consists of 31 credit hours of General Education; 41 credit hours of music composition and basic musicianship; and 34-40 credit hours of supportive courses in music, including ensemble participation and performance studies. The culminating experience for this degree is a senior composition project.

**College Prospect for Success Course (2 credit hours)**
*All new freshmen in the College of Arts + Architecture must take the following:*
COAA 1101 - Student Success in Architecture, Art, Performance, and Design (2)

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Music Composition and Basic Musicianship Courses (41 credit hours)**
***Music Composition Courses (19 credit hours)***
MUSC 2240 - Introduction to Composition (1) *(2 semesters)*
MUSC 3130 - Counterpoint (2)
MUSC 4230 - Form and Analysis (3)
MUSC 4231 - Post-Tonal Processes (3)
MUSC 4235 - Orchestration and Arranging (2)
MUSC 4240 - Composition (2)
MUSC 4241 - Advanced Composition (2)
MUSC 4800 - Senior Project Preparation (1 to 3)

***Basic Musicianship Courses (22 credit hours)***
MUSC 1230 - Musicianship I (3)
MUSC 1231 - Musicianship II (3)
MUSC 1233 - Class Piano I (1)
MUSC 1234 - Class Piano II (1)
MUSC 2230 - Musicianship III (3)
MUSC 2233 - Class Piano III (1)
MUSC 2234 - Class Piano IV (1)
MUSC 3170 - Music History I (3)
MUSC 3171 - Music History II (3)

*Select one from the following:*
MUSC 3129 - Music Theories of the World (3)
MUSC 3131 - Popular Music Songwriting (3)

MUSC 3132 - Advanced Tonal Aural Skills (3)
MUSC 3133 - Advanced Post-Tonal Aural Skills (3)

**Music Supportive Courses (34-38 credit hours)**
***Ensemble Participation and Performance Courses (26 credit hours)***
MUPF 11xx - Primary Ensembles (1) *(8 semesters)*
MUPF 11xx - Secondary Ensembles (1) *(2 semesters)*
MUPF 12xx - Applied Music (2) *(4 semesters)*
MUPF 32xx - Advanced Applied Music (2) *(4 semesters)*
MUSC 1300 - Performance Class (0) *(4 semesters)*
MUSC 3300 - Advanced Performance Class (0) *(4 semesters)*

***Other Supportive Courses (5 credit hours)***
MUSC 2101 - Introduction to Music Business (2)
MUSC 3100 - Introduction to Music Technology (1)
MUSC 3134 - Fundamentals of Conducting (2)

***Music Business or Technology Course (1 credit hour)***
*Select one of the following:*
MUSC 1403 - Audio Engineering Practicum (1)
MUSC 2410 - Music Internship (1 to 3)
Other approved course

***Diction Courses (0-4 credit hours)***
*Diction Courses are required only for students enrolled in MUPF 1253.*

MUSC 2137 - Phonetics and Articulation for Singers I: Italian and Latin Diction (1)
MUSC 2138 - Phonetics and Articulation for Singers II: English Diction (1)
MUSC 2237 - Phonetics and Articulation for Singers III: German Diction (1)
MUSC 2238 - Phonetics and Articulation IV: French Diction (1)

***Techniques Courses (2 credit hours)***
MUPF 1117 - Instrumental Lab Ensemble (0) *(2 semesters)*

*Plus select two of the following outside the student's primary instrument:*
MUSC 1223 - Woodwind Techniques (1)
MUSC 1225 - Brass Techniques (1)
MUSC 1227 - String Techniques (1)
MUSC 1229 - Percussion Techniques (1)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives). Based upon the student's interests, the following courses are recommended to supplement the Concentration in Composition:

MUSC 1237 - Class Voice (1)
MUSC 3136 - Instrumental Conducting (2)
Additional techniques courses

## Degree Total = 120 Credit Hours

## Progression Requirements

Most Music courses require grades of C or above to progress to subsequent levels of study. All required Music courses must be passed with grades of C or above to graduate. For specific requirements, refer to the *Department of Music Student Handbook*.

All students are required to pass a Sophomore Review (typically pursued the Spring semester of a student's second year in the program). The Sophomore Review process consists of a Musicianship Evaluation, an Applied Performance Evaluation, and an Interview. Students who fail their Sophomore Review will be eligible to initiate a new Review the following semester. Students in the major must successfully complete the Sophomore Review before enrolling in some major courses at the 3000 or 4000 level.

## Honors Program
For details about the Arts + Architecture Honors Program, see the beginning of the College of Arts + Architecture section.

# Bachelor of Music *with Concentration in Elective Study in an Outside Field*
The Bachelor of Music with Concentration in Elective Study in an Outside Field is designed for students who want to combine intensive training in music with the exploration of another discipline.

## Admission Requirements
**Freshmen and Transfers**
- See University Admission Requirements
- *Minimum GPA:* n/a
- *Transferable Credit Hours:* Determined by UNC Charlotte Undergraduate Admissions.
- *Declaration of Major:* A formal audition is required for acceptance to the Music major (see the Music Department "Admissions" website for audition processes and dates). Students are first admitted as Pre-Music. If the student is approved for acceptance after the audition, their major is changed to Music, and they may proceed with major coursework.

**Currently Enrolled Students**
- A formal audition is required for acceptance to the Music major. Students already enrolled at UNC Charlotte access the audition information on the Music Department "Admissions" website and follow the current student instructions for securing their audition. If the student is approved for acceptance after the audition, their major is changed to Music, and they may proceed with major coursework. Students must indicate Music Education at the time of audition to avoid a delayed graduation date.

## Degree Requirements
The curriculum consists of 31 credit hours of General Education and 57-61 credit hours of Music Courses. Additional requirements include 18 credit hours of Elective Studies from courses offered at UNC Charlotte. The culminating experiences for this degree include a Senior Recital and a choice between a (1) Senior Project or (2) Senior Internship.

**College Prospect for Success Course (2 credit hours)**
*All new freshmen in the College of Arts + Architecture must take the following:*

COAA 1101 - Student Success in Architecture, Art, Performance, and Design (2)

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Major Courses (57-61 credit hours)**
***Basic Musicianship Courses (22 credit hours)***
MUSC 1230 - Musicianship I (3)
MUSC 1231 - Musicianship II (3)
MUSC 1233 - Class Piano I (1)
MUSC 1234 - Class Piano II (1)
MUSC 2230 - Musicianship III (3)
MUSC 2233 - Class Piano III (1)
MUSC 2234 - Class Piano IV (1)
MUSC 3170 - Music History I (3)
MUSC 3171 - Music History II (3)

*Select one from the following:*
MUSC 3129 - Music Theories of the World (3)
MUSC 3131 - Popular Music Songwriting (3)
MUSC 3132 - Advanced Tonal Aural Skills (3)
MUSC 3133 - Advanced Post-Tonal Aural Skills (3)

***Ensemble Participation and Performance Courses (26 credit hours)***
MUPF 11xx - Primary Ensembles (1) *(8 semesters)*
MUPF 11xx - Secondary Ensembles (1) *(2 semesters)*
MUPF 12xx - Applied Music (2) *(4 semesters*)
MUPF 32xx - Advanced Applied Music (2) *(3 semesters)*
MUPF 44xx - Senior Recital Preparation (2)
MUSC 1300 - Performance Class (0) *(4 semesters)*
MUSC 3300 - Advanced Performance Class (0) *(4 semesters)*

***Phonetics and Articulation Courses (0-4 credit hours)***
These courses are required only for students enrolled in MUPF 1253.

MUSC 2137 - Phonetics and Articulation for Singers I: Italian and Latin Diction (1)
MUSC 2138 - Phonetics and Articulation for Singers II: English Diction (1)
MUSC 2237 - Phonetics and Articulation for Singers III: German Diction (1)
MUSC 2238 - Phonetics and Articulation IV: French Diction (1)

***Elective Upper-Division Music Courses (6 credit hours)***
Select any combination of music courses at the 3000- or 4000-level for the 6 credit hour requirement.

***Capstone Experience (3 credit hours)***
The culminating experience for this degree include a Senior Recital and a choice between a (1) Senior Project or (2) Senior Internship.

*Select one of the following:*
MUSC 4410 - Senior Music Internship (2 to 4)
MUSC 4800 - Senior Project Preparation (1 to 3)

**Elective Study in an Outside Field Concentration Courses (18 credit hours)**
Select 18 credit hours of electives in one academic discipline from courses offered at UNC Charlotte (e.g., 18 credit hours of Psychology, 18 credit hours of Business).

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

### Progression Requirements
Most Music courses require grades of C or above to progress to subsequent levels of study. All required Music courses must be passed with grades of C or above to graduate. For specific requirements, refer to the *Department of Music Student Handbook.*

All students are required to pass a Sophomore Review (typically pursued the Spring semester of a student's second year in the program). The Sophomore Review process consists of a Musicianship Evaluation, an Applied Performance Evaluation, and an Interview. Students who fail their Sophomore Review will be eligible to initiate a new Review the following semester. Students in the major must successfully complete the Sophomore Review before enrolling in some major courses at the 3000 or 4000 level.

### Honors Program
For details about the Arts + Architecture Honors Program, see the beginning of the College of Arts + Architecture section.

## Bachelor of Music *with Concentration in Jazz Studies*
The Bachelor of Music (B.M.) with a Concentration in Jazz Studies is designed for students who are planning careers as jazz musicians. The curriculum consists of 31 credit hours of General Education OR 33 credit hours if COAA 1101 is included in General Education; 56 credit hours in the Core Music Curriculum, including private lessons, ensembles, music theory, aural skills, piano, and music history; and 19-21 credit hours in Concentration Courses, including coursework in jazz improvisation, jazz arranging and composition, and jazz history. The culminating experiences for this degree are a junior and senior recital.

### Admission Requirements
**Freshmen and Transfers**
- See University Admission Requirements
- *Minimum GPA:* n/a
- *Transferable Credit Hours:* Determined by UNC Charlotte Undergraduate Admissions.
- *Declaration of Major:* A formal audition is required for acceptance to the Music major (see the Music Department "Admissions" website for audition processes and dates). Students are first admitted as Pre-Music. If the student is approved for acceptance after the audition,

their major is changed to Music, and they may proceed with major coursework.

**Currently Enrolled Students**

- A formal audition is required for acceptance to the Music major. Students already enrolled at UNC Charlotte access the audition information on the Music Department "Admissions" website and follow the current student instructions for securing their audition. If the student is approved for acceptance after the audition, their major is changed to Music, and they may proceed with major coursework. Students must indicate Music Education at the time of audition to avoid a delayed graduation date.

## Degree Requirements

**College Prospect for Success Course (2 credit hours)**

*All new freshmen in the College of Arts + Architecture must take the following:*

COAA 1101 - Student Success in Architecture, Art, Performance, and Design (2)

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Major Courses (54 credit hours)**

***Musicianship Courses (22 credit hours)***

MUSC 1230 - Musicianship I (3)
MUSC 1231 - Musicianship II (3)
MUSC 1233 - Class Piano I (1)
MUSC 1234 - Class Piano II (1)
MUSC 2230 - Musicianship III (3)
MUSC 2233 - Class Piano III (1)
MUSC 2234 - Class Piano IV (1)
MUSC 3170 - Music History I (3)
MUSC 3171 - Music History II (3)

*Select one from the following:*

MUSC 3129 - Music Theories of the World (3)
MUSC 3131 - Popular Music Songwriting (3)
MUSC 3132 - Advanced Tonal Aural Skills (3)
MUSC 3133 - Advanced Post-Tonal Aural Skills (3)

***Performance Courses (32 credit hours)***

MUPF 11xx - Primary Ensembles (Classical) (1) *(4 semesters)*
MUPF 11xx - Primary Ensembles (Jazz) (1) *(8 semesters)*
MUPF 11xx - Secondary Ensembles (Jazz) (1) *(4 semesters)*
MUPF 12xx - Applied Music (1) *(4 semesters)*
MUPF 126x - Applied Music (Jazz) (1) *(4 semesters)*
MUPF 32xx - Advanced Applied Music (Jazz) (2) *(2 semesters)*
MUPF 34xx - Junior Recital Preparation (2)
MUPF 44xx - Senior Recital Preparation (2)
MUSC 1300 - Performance Class (0) *(4 semesters)*
MUSC 3300 - Advanced Performance Class (0) *(4 semesters)*

**Concentration Courses (19-21 credit hours)**

MUSC 1222 - Jazz Ensemble Techniques (1)
MUSC 2101 - Introduction to Music Business (2)
MUSC 2235 - Jazz Improvisation I (2)
MUSC 2236 - Jazz Improvisation II (2)
MUSC 3100 - Introduction to Music Technology (1)
MUSC 3252 - Jazz Piano Techniques (1)
MUSC 4138 - Jazz Pedagogy and Materials (3)
MUSC 4234 - Jazz Arranging and Composition (3)
MUSC 4235 - Orchestration and Arranging (2)
MUSC 4298 - Jazz History (3)

***Concentration Music Business or Technology Course (1-3 credit hours)***

*Select one of the following:*

MUSC 1403 - Audio Engineering Practicum (1)
MUSC 2410 - Music Internship (1 to 3)
Other approved course

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements

Most Music courses require grades of C or above to progress to subsequent levels of study. All required Music courses must be passed with grades of C or above to graduate. For specific requirements, refer to the *Department of Music Student Handbook*.

All students are required to pass a Sophomore Review (typically pursued the Spring semester of a student's second year in the program). The Sophomore Review process consists of a Musicianship Evaluation, an Applied Performance Evaluation, and an Interview. Students who fail their Sophomore Review will be eligible to initiate a new Review the following semester. Students in the major must successfully complete the Sophomore Review before enrolling in some major courses at the 3000 or 4000 level.

## Honors Program

For details about the Honors Program in Arts + Architecture, see the beginning of the College of Arts + Architecture section.

# Bachelor of Music *with Concentration in Choral/General Music Education*

The Bachelor of Music (B.M.) with a Concentration in Choral/General Music Education is designed for vocalists who wish to become public school choral directors or general music educators. The curriculum includes 31 credit hours of General Education; 61 credit hours of studies in music, including basic musicianship and performance studies; and 26 credit hours of professional education courses that lead to a K-12

teaching license in the State of North Carolina. The culminating experiences for this degree are a Senior Recital and Student Teaching.

## Admission Requirements

### Freshmen and Transfers

- See University Admission Requirements
- *Minimum GPA:* n/a
- *Transferable Credit Hours:* Determined by UNC Charlotte Undergraduate Admissions.
- *Declaration of Major:* A formal audition is required for acceptance to the Music major (see the Music Department "Admissions" website for audition processes and dates). Students are first admitted as Pre-Music. If the student is approved for acceptance after the audition, their major is changed to Music, and they may proceed with major coursework.

### Currently Enrolled Students

- A formal audition is required for acceptance to the Music major. Students already enrolled at UNC Charlotte access the audition information on the Music Department "Admissions" website and follow the current student instructions for securing their audition. If the student is approved for acceptance after the audition, their major is changed to Music, and they may proceed with major coursework. Students must indicate Music Education at the time of audition to avoid a delayed graduation date.

## Degree Requirements

### College Prospect for Success Course (2 credit hours)

*All new freshmen in the College of Arts + Architecture must take the following:*

COAA 1101 - Student Success in Architecture, Art, Performance, and Design (2)

### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

### Music Studies Courses (61 credit hours)

***Basic Musicianship Courses (22 credit hours)***

MUSC 1230 - Musicianship I (3)
MUSC 1231 - Musicianship II (3)
MUSC 1233 - Class Piano I (1)
MUSC 1234 - Class Piano II (1)
MUSC 2230 - Musicianship III (3)
MUSC 2233 - Class Piano III (1)
MUSC 2234 - Class Piano IV (1)
MUSC 3170 - Music History I (3)
MUSC 3171 - Music History II (3)

*Select one from the following:*

MUSC 3129 - Music Theories of the World (3)
MUSC 3131 - Popular Music Songwriting (3)
MUSC 3132 - Advanced Tonal Aural Skills (3)
MUSC 3133 - Advanced Post-Tonal Aural Skills (3)

***Performance Courses (23 credit hours)***

MUPF 1120 - University Chorale (1) *(7 semesters)*
MUPF 1253 - Applied Music: Voice (1 to 2) *(4 semesters)*
MUPF 3253 - Advanced Applied Music: Voice (2) *(2 semesters)*
MUPF 4453 - Senior Recital Preparation: Voice (2)
MUSC 1300 - Performance Class (0) *(4 semesters)*
MUSC 3300 - Advanced Performance Class (0) *(3 semesters)*

*Plus one of the following Secondary Ensembles:*

MUPF 1122 - Men's Chorus (Mallard Creek Chorale) (1) *(2 semesters)*
MUPF 1123 - Women's Chorus (Charlotteans) (1) *(2 semesters)*
MUPF 1124 - Opera Workshop (1) *(2 semesters)*
MUPF 1125 - Gospel Choir (1) *(2 semesters)*
MUPF 1128 - Special Vocal Ensemble (1) *(2 semesters)*

***Other Music Studies Courses (16 credit hours)***

MUED 3101 - Technology for Music Educators (1)
MUSC 2137 - Phonetics and Articulation for Singers I: Italian and Latin Diction (1)
MUSC 2138 - Phonetics and Articulation for Singers II: English Diction (1)
MUSC 2237 - Phonetics and Articulation for Singers III: German Diction (1)
MUSC 2238 - Phonetics and Articulation IV: French Diction (1)
MUSC 3134 - Fundamentals of Conducting (2)
MUSC 3135 - Choral Conducting (2)
MUSC 3151 - Accompanying for Non-Pianists (1)
MUSC 4094 - Instrumental Ensemble Techniques (1)
MUSC 4137 - Vocal Pedagogy (3)
MUSC 4235 - Orchestration and Arranging (2)

### Professional Education Courses (26 credit hours)

MUED 2100 - Introduction to Music Education (2)
MUED 2200 - Foundations of Music Education (2)
MUED 2241 - Music Development and Learning (2)
MUED 3270 - Teaching Discipline: Assessment and Behavior in the Music Classroom (2)
MUED 4190 - Choral Methods (2)
MUED 4190L - Choral Methods Lab (1)
MUED 4192 - General Music Methods (2)
MUED 4192L - General Music Methods Lab (1)
MUED 4467 - Student Teaching/Seminar: K-12 Music (12)

### Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements

Most Music courses require grades of C or above to progress to subsequent levels of study. All required Music courses must be passed with grades of C or above to graduate. Students must earn a grade of P in Student Teaching with recommendation from their Clinical Educator, University Supervisor, and Principal, and also pass edTPA to be recommended for licensure. For specific requirements, refer to the *Department of Music Student Handbook*.

All students are required to pass a Sophomore Review (typically pursued the Spring semester of a student's second year in the program). The Sophomore Review process consists of a Musicianship Evaluation, an Applied Performance Evaluation, and an Interview. Students who fail their Sophomore Review will be eligible to initiate a new Review the following semester. Students in the major must successfully complete the Sophomore Review before enrolling in some major courses at the 3000 or 4000 level.

At the end of the same semester as Sophomore Review, students seeking K-12 Music Education licensure must have earned a C or above in all MUED coursework, achieved passing scores on Praxis Core (or proven exemption via test scores), obtained a cumulative GPA of 2.75, and completed the Application to Teacher Education which includes a signed Professional Dispositions statement and clear criminal background check.

To progress to Student Teaching, students must achieve a minimum 2.75 GPA in all Music and Education courses, a minimum 2.75 GPA overall, and successfully perform a Senior Recital.

## Honors Program

For details about the Honors Program in Arts + Architecture, see the beginning of the College of Arts + Architecture section.

# Bachelor of Music *with Concentration in Instrumental/General Music Education*

The Bachelor of Music (B.M.) with a Concentration in Instrumental/General Music Education is designed for instrumentalists who wish to become public-school instrumental directors or general music educators. The curriculum leads to a K-12 teaching license in the State of North Carolina.

## Admission Requirements

### Freshmen and Transfers

- See University Admission Requirements
- *Minimum GPA:* n/a
- *Transferable Credit Hours:* Determined by UNC Charlotte Undergraduate Admissions.
- *Declaration of Major:* A formal audition is required for acceptance to the Music major (see the Music Department "Admissions" website for audition processes and dates). Students are first admitted as Pre-Music. If the student is approved for acceptance after the audition, their major is changed to Music, and they may proceed with major coursework.

### Currently Enrolled Students

- A formal audition is required for acceptance to the Music major. Students already enrolled at UNC Charlotte access the audition information on the Music Department "Admissions" website and follow the current student instructions for securing their audition. If the student is approved for acceptance after the audition, their major is changed to Music, and they may proceed with major coursework. Students must indicate Music Education at the time of audition to avoid a delayed graduation date.

## Degree Requirements

### College Prospect for Success Course (2 credit hours)

*All new freshmen in the College of Arts + Architecture must take the following:*

COAA 1101 - Student Success in Architecture, Art, Performance, and Design (2)

### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

### Music Studies Courses (59 credit hours)

***Basic Musicianship Courses (22 credit hours)***

MUSC 1230 - Musicianship I (3)
MUSC 1231 - Musicianship II (3)
MUSC 1233 - Class Piano I (1)
MUSC 1234 - Class Piano II (1)
MUSC 2230 - Musicianship III (3)
MUSC 2233 - Class Piano III (1)
MUSC 2234 - Class Piano IV (1)
MUSC 3170 - Music History I (3)
MUSC 3171 - Music History II (3)

*Select one from the following:*

MUSC 3129 - Music Theories of the World (3)
MUSC 3131 - Popular Music Songwriting (3)
MUSC 3132 - Advanced Tonal Aural Skills (3)
MUSC 3133 - Advanced Post-Tonal Aural Skills (3)

***Performance Courses (23 credit hours)***

MUPF 11xx - Primary Ensembles (1) *(7 semesters)*
MUPF 11xx - Secondary Ensembles (1) *(2 semesters)*
MUPF 12xx - Applied Music (2) *(4 semesters)*
MUPF 32xx - Advanced Applied Music (2) *(2 semesters)*
MUPF 44xx - Senior Recital Preparation (2)
MUSC 1300 - Performance Class (0) *(4 semesters)*
MUSC 3300 - Advanced Performance Class (0) *(3 semesters)*

***Other Music Studies Courses (14 credit hours)***

MUED 3101 - Technology for Music Educators (1)
MUSC 1222 - Jazz Ensemble Techniques (1)
or MUSC 1228 - Advanced String Skills (1) *(for string principals (violin, viola, cello, bass))*
MUSC 1223 - Woodwind Techniques (1)
MUSC 1225 - Brass Techniques (1)
MUSC 1227 - String Techniques (1)
MUSC 1229 - Percussion Techniques (1)
MUSC 2222 - Marching Band Techniques (1)
or MUSC 1238 - Guitar Class I (1) *(for string principals (violin, viola, cello, bass))*
MUSC 3100 - Introduction to Music Technology (1)
MUSC 3134 - Fundamentals of Conducting (2)
MUSC 3136 - Instrumental Conducting (2)
MUSC 4090 - Choral Ensemble Techniques (1)
MUSC 4235 - Orchestration and Arranging (2)

### Professional Education Courses (26 credit hours)

MUED 2100 - Introduction to Music Education (2)
MUED 2200 - Foundations of Music Education (2)
MUED 2241 - Music Development and Learning (2)
MUED 3270 - Teaching Discipline: Assessment and Behavior in the Music Classroom (2)
MUED 4192 - General Music Methods (2)
MUED 4192L - General Music Methods Lab (1)
MUED 4194 - Instrumental Methods (2)
MUED 4194L - Instrumental Methods Lab (1)
MUED 4467 - Student Teaching/Seminar: K-12 Music (12)
MUPF 1117 - Instrumental Lab Ensemble (0) *(4 semesters)*

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements
Most Music courses require grades of C or above to progress to subsequent levels of study. All required Music courses must be passed with grades of C or above to graduate. Students must earn a grade of P in Student Teaching with recommendation from their Clinical Educator, University Supervisor, and Principal, and also pass edTPA to be recommended for licensure. For specific requirements, refer to the *Department of Music Student Handbook*.

All students are required to pass a Sophomore Review (typically pursued the Spring semester of a student's second year in the program). The Sophomore Review process consists of a Musicianship Evaluation, an Applied Performance Evaluation, and an Interview. Students who fail their Sophomore Review will be eligible to initiate a new Review the following semester. Students in the major must successfully complete the Sophomore Review before enrolling in some major courses at the 3000 or 4000 level.

At the end of the same semester as Sophomore Review, students seeking K-12 Music Education licensure must have earned a C or above in all MUED coursework, achieved passing scores on Praxis Core (or proven exemption via test scores), obtained a cumulative GPA of 2.75, and completed the Application to Teacher Education which includes a signed Professional Dispositions statement and clear criminal background check.

To progress to student teaching, students must achieve a minimum 2.75 GPA in all Music and Education courses, a minimum 2.75 GPA overall, and successfully perform a Senior Recital.

## Honors Program
For details about the Honors Program in Arts + Architecture, see the beginning of the College of Arts + Architecture section.

# Bachelor of Music *with Concentration in Instrumental Performance*
The Bachelor of Music (B.M.) with a Concentration in Instrumental Performance is designed for students who are planning careers as performing musicians. The culminating experiences for this degree program are Junior and Senior Recitals.

## Admission Requirements
**Freshmen and Transfers**
- See University Admission Requirements
- *Minimum GPA:* n/a
- *Transferable Credit Hours:* Determined by UNC Charlotte Undergraduate Admissions
- *Declaration of Major:* A formal audition is required for acceptance to the Music major (see the Music Department "Admissions" website for audition processes and dates). Students are first admitted as Pre-Music. If the student is approved for acceptance after the audition, their major is changed to Music, and they may proceed with major coursework.

**Currently Enrolled Students**
- A formal audition is required for acceptance to the Music major. Students already enrolled at UNC Charlotte access the audition information on the Music Department "Admissions" website and follow the current student instructions for securing their audition. If the student is approved for acceptance after the audition, their major is changed to Music, and they may proceed with major coursework. Students must indicate Music Education at the time of audition to avoid a delayed graduation date.

## Progression Requirements
Most Music courses require grades of C or above to progress to subsequent levels of study. All required Music courses must be passed with grades of C or above to graduate. For specific requirements, refer to the *Department of Music Student Handbook*.

All students are required to pass a Sophomore Review (typically pursued the Spring semester of a student's second year in the program). The Sophomore Review process consists of a Musicianship Evaluation, an Applied Performance Evaluation, and an Interview. Students who fail their Sophomore Review will be eligible to initiate a new Review the following semester. Students in the major must successfully complete the Sophomore Review before enrolling in some major courses at the 3000 or 4000 level.

## Degree Requirements
**College Prospect for Success Course (2 credit hours)**
*All new freshmen in the College of Arts + Architecture must take the following:*
COAA 1101 - Student Success in Architecture, Art, Performance, and Design (2)

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Major Courses (54 credit hours)**

***Musicianship Courses (22 credit hours)***

MUSC 1230 - Musicianship I (3)
MUSC 1231 - Musicianship II (3)
MUSC 1233 - Class Piano I (1)
MUSC 1234 - Class Piano II (1)
MUSC 2230 - Musicianship III (3)
MUSC 2233 - Class Piano III (1)
MUSC 2234 - Class Piano IV (1)
MUSC 3170 - Music History I (3)
MUSC 3171 - Music History II (3)

*Select one from the following:*
MUSC 3129 - Music Theories of the World (3)
MUSC 3131 - Popular Music Songwriting (3)
MUSC 3132 - Advanced Tonal Aural Skills (3)
MUSC 3133 - Advanced Post-Tonal Aural Skills (3)

***Performance Courses (33 credit hours)***

MUPF 11xx - Primary Ensembles (1) *(8 semesters)*
MUPF 11xx - Secondary Ensembles (1) *(8 semesters)*
MUPF 12xx - Applied Music (2) *(4 semesters)*
MUPF 32xx - Advanced Applied Music (2) *(2 semesters)*
MUPF 34xx - Junior Recital Preparation (2)
MUPF 44xx - Senior Recital Preparation (2)
MUSC 1300 - Performance Class (0) *(4 semesters)*
MUSC 3300 - Advanced Performance Class (0) *(4 semesters)*

**Concentration Courses (21-23 credit hours)**

MUSC 2101 - Introduction to Music Business (1)
MUSC 2235 - Jazz Improvisation I (2)
or MUSC 4235 - Orchestration and Arranging (2)
MUSC 3100 - Introduction to Music Technology (1)
MUSC 3130 - Counterpoint (2)
MUSC 3134 - Fundamentals of Conducting (2)
MUSC 3136 - Instrumental Conducting (2)
MUSC 413x - Pedagogy and Literature (3)
MUSC 4230 - Form and Analysis (3)
MUSC 4231 - Post-Tonal Processes (3)

***Business or Technology Concentration Course (1-3 credit hours)***

*Select one of the following:*
MUSC 1403 - Audio Engineering Practicum (1)
MUSC 2410 - Music Internship (1 to 3)
Another approved course

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements

Most Music courses require grades of C or above to progress to subsequent levels of study. All required Music courses must be passed with grades of C or above to graduate. For specific requirements, refer to the *Department of Music Student Handbook.*

## Honors Program

For details about the Honors Program in Arts + Architecture, see the beginning of the College of Arts + Architecture section.

# Bachelor of Music *with Concentration in Vocal Performance*

The Bachelor of Music (B.M.) with a Concentration in Vocal Performance is designed for vocalists who are planning careers as performing musicians.

## Admission Requirements

**Freshmen and Transfers**

- See University Admission Requirements
- *Minimum GPA:* n/a
- *Transferable Credit Hours:* Determined by UNC Charlotte Undergraduate Admissions.
- *Declaration of Major:* A formal audition is required for acceptance to the Music major (see the Music Department "Admissions" website for audition processes and dates). Students are first admitted as Pre-Music. If the student is approved for acceptance after the audition, their major is changed to Music, and they may proceed with major coursework.

**Currently Enrolled Students**

- A formal audition is required for acceptance to the Music major. Students already enrolled at UNC Charlotte access the audition information on the Music Department "Admissions" website and follow the current student instructions for securing their audition. If the student is approved for acceptance after the audition, their major is changed to Music, and they may proceed with major coursework. Students must indicate Music Education at the time of audition to avoid a delayed graduation date.

## Degree Requirements

The curriculum consists of 31 credit hours of General Education; 36 credit hours of study in the major area of performance, including performance studies, ensemble participation, pedagogy, and recitals; and 44 credit hours of supportive courses in music, including basic musicianship. The culminating experiences for this degree are a Junior Recital and a Senior Recital.

**College Prospect for Success Course (2 credit hours)**

*All new freshmen in the College of Arts + Architecture must take the following:*
COAA 1101 - Student Success in Architecture, Art, Performance, and Design (2)

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for

information.

**Foreign Language Requirement (0-8 credit hours)**
Students in this major are required to demonstrate proficiency in two foreign languages selected from French, German, or Italian at the 1201 level; or proficiency in French, German, or Italian through the 1202 level. Proficiency can be demonstrated in one of the following ways:

- Completing the required coursework at UNC Charlotte
- Completing three years of the same foreign language in high school through level three
- Achieving a satisfactory score on the foreign languages placement test (in Spanish, French, or German)
- Through approved transfer or transient credit earned at a college or university accredited by an accepted accrediting body
- A combination of the above methods (e.g., placing out of or earning transfer or transient credit for 1201 and completing the 1202 course, completing 1201 and placing out of or earning transfer or transient credit for 1202)

**Major Performance Courses (33 credit hours)**
***Performance Courses (12 credit hours)***
MUPF 1253 - Applied Music: Voice (1 to 2) *(4 semesters)*
MUPF 3253 - Advanced Applied Music: Voice (2) *(2 semesters)*
MUSC 1300 - Performance Class (0) *(4 semesters)*
MUSC 3300 - Advanced Performance Class (0) *(4 semesters)*

***Ensemble Participation Courses (14 credit hours)***
MUPF 11xx - Secondary Ensembles (1) *(6 semesters)*
MUPF 1120 - University Chorale (1) *(8 semesters)*

***Pedagogy Course (3 credit hours)***
MUSC 4137 - Vocal Pedagogy (3)

***Recital Courses (4 credit hours)***
MUPF 3453 - Junior Recital Preparation: Voice (2)
MUPF 4453 - Senior Recital Preparation: Voice (2)

**Supportive Music Courses (37 credit hours)**
***Basic Musicianship Courses (22 credit hours)***
MUSC 1230 - Musicianship I (3)
MUSC 1231 - Musicianship II (3)
MUSC 1233 - Class Piano I (1)
MUSC 1234 - Class Piano II (1)
MUSC 2230 - Musicianship III (3)
MUSC 2233 - Class Piano III (1)
MUSC 2234 - Class Piano IV (1)
MUSC 3170 - Music History I (3)
MUSC 3171 - Music History II (3)

*Select one from the following:*
MUSC 3129 - Music Theories of the World (3)
MUSC 3131 - Popular Music Songwriting (3)
MUSC 3132 - Advanced Tonal Aural Skills (3)
MUSC 3133 - Advanced Post-Tonal Aural Skills (3)

***Other Supportive Music Courses (15 credit hours)***
MUSC 2101 - Introduction to Music Business (2)
MUSC 2137 - Phonetics and Articulation for Singers I: Italian and Latin Diction (1)
MUSC 2138 - Phonetics and Articulation for Singers II: English Diction (1)
MUSC 2237 - Phonetics and Articulation for Singers III: German Diction (1)
MUSC 2238 - Phonetics and Articulation IV: French Diction (1)
MUSC 3100 - Introduction to Music Technology (1)
MUSC 3134 - Fundamentals of Conducting (2)
MUSC 4037 - Vocal Literature (3)
MUSC 4230 - Form and Analysis (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

### Progression Requirements
Most Music courses require grades of C or above to progress to subsequent levels of study. All required Music courses must be passed with grades of C or above to graduate. For specific requirements, refer to the *Department of Music Student Handbook*.

All students are required to pass a Sophomore Review (typically pursued the Spring semester of a student's second year in the program). The Sophomore Review process consists of a Musicianship Evaluation, an Applied Performance Evaluation, and an Interview. Students who fail their Sophomore Review will be eligible to initiate a new Review the following semester. Students in the major must successfully complete the Sophomore Review before enrolling in some major courses at the 3000 or 4000 level.

### Honors Program
For details about the Honors Program in Arts + Architecture, see the beginning of the College of Arts + Architecture section.

## Minor in Music Performance
The Minor in Music Performance is designed for students who wish to enhance their skills as performing artists while working towards degrees in other fields. Music Performance minors participate in ensembles, receive private lessons, and take introductory courses in musicianship, as well as MUSC 1502 and MUSC 1512, which can also be used to satisfy a General Education requirement. The total unit requirement for the Minor in Music Performance is 18 credit hours. For specific requirements, refer to the *Department of Music Student Handbook*.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**

See University Admission Requirements

Interested students should contact the Performing Arts Academic Advisor as soon as possible for advising. Students interested in pursuing this minor must audition through the Department of Music (see the "Admissions" link at music.charlotte.edu for details).

## Minor Requirements

**General Studies and Musicianship Courses (6 credit hours)**

MUSC 1102 - Fundamentals of Musicianship (3)
MUSC 1502 - Global Arts/Humanities: Music in Global Communities (3)
or MUSC 1512 - Local Arts/Humanities: Music in U.S. Communities (3)

**Performance Courses (6 credit hours)**

***Primary Ensemble Courses (4 credit hours)***

*Select one of the following to be taken for four semesters:*
MUPF 1110 - Orchestra (1)
MUPF 1111 - Jazz Ensemble (1)
MUPF 1112 - Wind Ensemble (1)
MUPF 1115 - Guitar Ensemble (1)
MUPF 1120 - University Chorale (1)
MUPF 1155 - Piano Ensemble (1)

***Applied Music Courses (2 credit hours)***

*Select one of the following to be taken for two semesters:*
MUPF 1240 - Applied Music: Euphonium (1 to 2)
MUPF 1241 - Applied Music: Trumpet (1 to 2)
MUPF 1242 - Applied Music: French Horn (1 to 2)
MUPF 1243 - Applied Music: Trombone (1 to 2)
MUPF 1244 - Applied Music: Tuba (1 to 2)
MUPF 1245 - Applied Music: Guitar (1 to 2)
MUPF 1246 - Applied Music: Harp (1 to 2)
MUPF 1247 - Applied Music: Organ (1 to 2)
MUPF 1248 - Applied Music: Piano (1 to 2)
MUPF 1249 - Applied Music: Violin (1 to 2)
MUPF 1250 - Applied Music: Viola (1 to 2)
MUPF 1251 - Applied Music: Cello (1 to 2)
MUPF 1252 - Applied Music: Bass (1 to 2)
MUPF 1253 - Applied Music: Voice (1 to 2)
MUPF 1254 - Applied Music: Flute (1 to 2)
MUPF 1255 - Applied Music: Clarinet (1 to 2)
MUPF 1256 - Applied Music: Saxophone (1 to 2)
MUPF 1257 - Applied Music: Oboe (1 to 2)
MUPF 1258 - Applied Music: Bassoon (1 to 2)
MUPF 1259 - Applied Music: Percussion (1 to 2)
MUPF 1260 - Applied Music: Jazz Saxophone (1)
MUPF 1261 - Applied Music: Jazz Trumpet (1)
MUPF 1262 - Applied Music: Jazz Trombone (1)
MUPF 1263 - Applied Music: Jazz Guitar (1)
MUPF 1264 - Applied Music: Jazz Piano (1)
MUPF 1265 - Applied Music: Jazz Bass (1)
MUPF 1266 - Applied Music: Jazz Percussion (1)
MUPF 1270 - Applied Music: Musical Theatre (1)
MUSC 1237 - Class Voice (1) (for voice principals only)

**Elective Music Courses (6 credit hours)**

*Select from extra semesters of Primary Ensembles listed above, extra semesters of Applied Music (space permitting) listed above, or from the following. Please note that some ensembles may require an audition.*

COAA 3350 - Musical Theatre Workshop (1)
MUPF 1113 - Symphonic Band (1)
MUPF 1114 - Basketball Band (1)
MUPF 1118 - Marching Band (1)
MUPF 1122 - Men's Chorus (Mallard Creek Chorale) (1)
MUPF 1123 - Women's Chorus (Charlotteans) (1)
MUPF 1124 - Opera Workshop (1)
MUPF 1125 - Gospel Choir (1)
MUPF 1132 - Wind Quintet (1)
MUPF 1134 - Flute Choir (1)
MUPF 1136 - Clarinet Choir (1)
MUPF 1137 - Saxophone Quartet (1)
MUPF 1139 - Woodwind Chamber Music (1)
MUPF 1142 - Brass Quintet (1)
MUPF 1143 - Trumpet Ensemble (1)
MUPF 1144 - Horn Ensemble (1)
MUPF 1146 - Tuba/Euphonium Ensemble (1)
MUPF 1149 - Brass Chamber Music (1)
MUPF 1151 - Percussion Ensemble (1)
MUPF 1168 - Philharmonia (1)
MUPF 1169 - String Chamber Music (1)
MUPF 1170 - Jazz Combo (1)
MUSC 1230 - Musicianship I (3)
MUSC 1231 - Musicianship II (3)
MUSC 1233 - Class Piano I (1)
MUSC 1234 - Class Piano II (1)
MUSC 1402 - Opera and Musical Theatre Practicum (1)
MUSC 1403 - Audio Engineering Practicum (1)
MUSC 2101 - Introduction to Music Business (2)
MUSC 2222 - Marching Band Techniques (1)
MUSC 2235 - Jazz Improvisation I (2)
MUSC 2236 - Jazz Improvisation II (2)
MUSC 2410 - Music Internship (1 to 3)
MUSC 3100 - Introduction to Music Technology (1)

**Total = 18 Credit Hours**

## Progression Requirements

All courses must be passed with grades of C or above to graduate with a Minor in Music Performance.

# Undergraduate Certificate in Jazz

The Undergraduate Certificate in Jazz is designed for instrumentalists who wish to enhance their undergraduate study with intensive training in jazz. It is available to instrumentalists in any of the three music degree tracks (B.A. in Music, B.M. in Music Education, and B.M. in Music Performance) who wish to supplement their required instruction in classical music with elective training in jazz. The curriculum consists of 20 credit hours of jazz studies that combine instruction in performance and musicianship, including ensembles, lessons, improvisation, history, and a course in either arranging or pedagogy. For specific requirements, refer to the *Department of Music Student Handbook*.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

Interested students should contact the Performing Arts Academic Advisor as soon as possible for advising. Students interested in pursuing this certificate must audition through the Department of Music (see the "Admissions" link at music.charlotte.edu for details).

### Certificate Requirements
**Performance Courses (10 credit hours)**
MUPF 1111 - Jazz Ensemble (4)
MUPF 1170 - Jazz Combo (2)
MUPF 126x - Applied Music (Jazz) (4) *(4 semesters)*

**Musicianship Courses (10 credit hours)**
MUSC 2235 - Jazz Improvisation I (2)
MUSC 2236 - Jazz Improvisation II (2)
MUSC 4138 - Jazz Pedagogy and Materials (3)
or MUSC 4234 - Jazz Arranging and Composition (3)
MUSC 4298 - Jazz History (3)

### Certificate Total = 20 Credit Hours

### Progression Requirements
All required courses must be passed with a grade of B or above to earn the Undergraduate Certificate in Jazz.

# Musical Theatre

dance.charlotte.edu
music.charlotte.edu
theatre.charlotte.edu

## Undergraduate Programs
- **Undergraduate Certificate in Musical Theatre**

Musical Theatre is an interdisciplinary program between the Departments of Dance, Music, and Theatre. The term "musical theatre" is defined in a way that embraces the richness and diversity of this challenging interdisciplinary art form, which includes musical comedy, the musical play, new and alternative musical theatre, "Broadway opera," cabaret, and revue. Students receive technique training in acting complemented by training in vocal technique, musicianship, dance, and the study of the repertoire of musical theatre in print and recordings, as well as in rehearsal and performance.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

## Undergraduate Certificate in Musical Theatre
The Undergraduate Certificate in Musical Theatre is designed to develop the unique skill set required for music theatre performance. The curriculum consists of 19 credit hours of coursework that includes singing, acting, and dance, along with music theatre history, rudimentary sight-singing, and music theatre workshop. Students practice and study the craft, theory, and historical evolution of music theatre.

### Admission Requirements
See University Admission Requirements

Admission into the certificate is by audition only. Any courses in the Musical Theatre certificate completed prior to formal admission into the program will subsequently be applied towards the certificate. Interested students should contact the Performing Arts Academic Advisor as soon as possible for advising

### Certificate Requirements
**Required Courses (11 credit hours)**
COAA 3150 - Musical Theatre History (3)
COAA 3350 - Musical Theatre Workshop (1) *(four semesters for a total of 4 credit hours)*
MUSC 1101 - Introduction to Aural Skills and Sight-Singing (1)
THEA 3207 - Acting for the Musical Theatre (3)

**Restricted Elective Courses (8 credit hours)**
***Elective Voice Courses (4 credit hours)***
*Select from the following (4 semesters for a total of 4 credit hours):*
MUPF 1270 - Applied Music: Musical Theatre (1)
MUSC 1237 - Class Voice (1)
MUSC 1240 - Class Voice for Musical Theatre (1)

***Elective Dance Courses (4 credit hours)***
*Select two of the following:*
DANC 1212 - Ballet I (2)
DANC 2126 - Tap Dance (2)
DANC 2127 – Latin Dance Forms (2)
DANC 2130 – Foundations of Hip-Hop Dance (2)
DANC 2226 – Vernacular Jazz Dance (2)
DANC 2227 - Contemporary Jazz Dance (2)

### Certificate Total = 19 Credit Hours

### Progression Requirements
All courses must be passed with a grade of C or above to earn the Undergraduate Certificate in Musical Theatre.

# Department of Theatre

theatre.charlotte.edu

## Undergraduate Programs
- B.A. in Theatre
  - **Theatre**
  - **Applied Theatre**
  - **Design/Tech**
  - **Directing, Dramaturgy, and Dramatic Writing (3-D)**
  - **Performance**
  - **Theatre Education (K-12)**
- Minor in Theatre
- Undergraduate Certificate in Musical Theatre *(see the individual Musical Theatre section)*

The Department of Theatre provides a student-focused liberal arts education that trains theatre artists, scholars and teachers to investigate current best practices and emerging entrepreneurial methods in professional theatre. Aligning with the university's commitment to open-access education, we drive vibrant intellectual inquiry, ethical and informed community engagement, and innovative creative research practices.

Led by a faculty of nationally recognized theatre artists and scholars, the curriculum promotes creativity, inquisitiveness, critical thinking, communication skills (oral and written), and cultural competency through classroom experience, individual and collaborative study, and actualized stage productions. Students learn to participate in current critical discourse while engaging with the theory, history, and material conditions of performance; the program thus creates a rigorous intellectual environment firmly rooted in the theatrical art form.

Theatre majors develop a working knowledge of the art form by taking four semesters of core curriculum courses followed by an additional four semesters of study in one of the following concentrations: Performance; Design/Tech; Directing, Devising and Dramatic Writing (3-D); Applied Theatre; or Theatre Education (with the goal of attaining a North Carolina teaching license). All majors take a culminating 3-credit hour senior seminar during the final year.

In addition to required coursework, the department sponsors a wide range of master classes (led by theatre artists and scholars from around the world), lecture-discussions, workshops, and other learning opportunities. Throughout their training, students work both as faculty-mentored individuals and in collaborative groups, so that in addition to making significant contributions to the cultural life of the campus and the Charlotte region through departmental productions, they emerge ready for theatrical internships, graduate programs, or for employment in any profession which places value on critical and analytical thinking, collaborative practice, and effective communication skills.

As part of the curriculum, the department presents a season of faculty-directed, student-acted MainStage productions, workshop-level performances, and professional guest performance events. Auditions

are open to all members of the University community. Performances are held in Robinson Hall and Rowe Arts, which contain three performance spaces and specialized rehearsal, design, and construction laboratories, as well as additional classrooms and department offices.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

# Bachelor of Arts in Theatre

The Theatre, B.A. degree requires a total of 120 credit hours, including 44 credit hours of theatre courses. This is a structured curriculum. Students take 26 credit hours of Core Courses and advance to the prescribed 15 credit hours of restricted electives (and Senior Seminar).

## Admission Requirements

### Freshmen and Transfers

- Students who meet the University's admissions requirements are admissible to the major.
- See University Admission Requirements
- *Declaration of Major*: Students can declare the Theatre major on their application for enrollment, after being admitted to the University, or transfer in from another major on campus.
- *Transferable Credit Hours*: Determined by UNC Charlotte Undergraduate Admissions.

### Currently Enrolled Students

- Currently enrolled UNC Charlotte students may declare the major at any time by completing a Change of Major Form.

## Degree Requirements

### College Prospect for Success Course (3 credit hours)

*All new Theatre Majors in the College of Arts + Architecture must take the following:*
THEA 1140 - The Theatre Experience (3)

### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Requirements. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

### Foreign Language Requirement (0-8 credit hours)

College of Arts + Architecture Foreign Language Requirement

### Major Courses (26 credit hours)

### Core Courses (10 credit hours)

THEA 1265 - Introduction to Stage Performance (3)
THEA 1270 - Acting I (3)
THEA 1300 - Play Analysis (3)
THEA 2600 - Majors Seminar (1)

### *Technical Theatre Practice (2 credit hours)*

Must be taken twice by each major.
THEA 2400 - Technical Theatre Practice (1)

### *Tech I Course (3 credit hours)*

*Select one of the following:*
THEA 1215 - Theatre Tech I - Costume (3)
THEA 1225 - Theatre Tech I - Scenic (3)
THEA 1235 - Theatre Tech I - Lighting (3)
THEA 1245 - Theatre Tech I - Sound (3)

### *Design I Course (3 credit hours)*

*Select one of the following:*
THEA 2210 - Costume Design I (3)
THEA 2230 - Scenic Design I (3)
THEA 2240 - Sound Design I (3)
THEA 2250 - Lighting Design I (3)

### *Theatre History Course (3 credit hours)*

*Select one of the following:*
THEA 2310 - Theatre History I (3)
THEA 2311 - Theatre History II (3)

### *Theatre History/Dramatic Literature Elective Core Course (3 credit hours)*

*Select one of the following or take the Theatre History course not already selected above:*
THEA 2310 - Theatre History I (3)
Or THEA 2311 - Theatre History II (3)
THEA 2330 - Shakespeare in History (3)
THEA 3310 - Dramaturgy (3)
THEA 4008 - Topics in Dramatic Literature (1 to 6)
THEA 4007 - Topics in Theatre History (1 to 6)
THEA 4330 - Performance Theory (3)

### *Advanced Theatre Practice (2-6 credit hours)*

THEA 3400 Advanced Theatre Practice (1-3 credits) must be taken once by each major. The second enrollment can be a second THEA 3400 or a third THEA 2400, for a minimum of two credits from two enrollments.

THEA 2400 - Technical Theatre Practice (1)
THEA 3400 - Advanced Theatre Practice (1 to 3)

### *Restricted Elective Courses (15 credit hours)*

Students must complete 15 credit hours of Restricted THEA Electives taken at the 2000 level and above. At least 6 of those hours must be at

the THEA 3000 level and above. No more than 9 credit hours of THEA 2000 level courses may be counted towards the Restricted Electives requirement.

***Senior Year Course (3 credit hours)***
*Must be taken in the Senior year:*
THEA 4620 - Senior Seminar (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

### Progression Requirements
All Theatre (THEA) courses must be passed with a grade of C or above, with no more than one grade of D in a Theatre course.

### Honors Program
For details about the Arts + Architecture Honors Program, visit the AAHP program page.

## Bachelor of Arts in Theatre *with Concentration in Applied Theatre*

### Admission Requirements
**Freshmen and Transfers**
- Students who meet the University's admissions requirements are admissible to the major.
- See University Admission Requirements
- *Declaration of Major:* Students can declare the Theatre major on their application for enrollment, after being admitted to the University, or transfer in from another major on campus.
- *Transferable Credit Hours:* Determined by UNC Charlotte Undergraduate Admissions.

**Currently Enrolled Students**
Currently enrolled UNC Charlotte students may declare the major at any time by completing a Change of Major Form.

### Degree Requirements
The Theatre major with a Concentration in Applied Theatre leading to the B.A. degree requires a total of 120 credit hours, including 44 credit hours of theatre courses. This is a structured curriculum. Students must take 26 credit hours of Core courses and the prescribed 18 credit hours of the Concentration in Applied Theatre (with Senior Seminar).

**College Prospect for Success Course (3 credit hours)**
*All new Theatre Majors in the College of Arts + Architecture must take the following:*
THEA 1140 - The Theatre Experience (3)

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information..

**Foreign Language Requirement (0-8 credit hours)**
Students in this major within the College of Arts + Architecture are required to demonstrate proficiency in the language of their choice through the 1202 level. For details, refer to the College of Arts + Architecture Foreign Language Requirements at the beginning of this section.

**Major Courses (26 credit hours)**
***Core Courses (10 credit hours)***
THEA 1265 - Introduction to Stage Performance (3)
THEA 1270 - Acting I (3)
THEA 1300 - Play Analysis (3)
THEA 2600 - Majors Seminar (1)

***Technical Theatre Practice (2 credit hours)***
Must be taken twice by each major.
THEA 2400 - Technical Theatre Practice (1)

***Tech I Course (3 credit hours)***
*Select one of the following:*
THEA 1215 - Theatre Tech I - Costume (3)
THEA 1225 - Theatre Tech I - Scenic (3)
THEA 1235 - Theatre Tech I - Lighting (3)
THEA 1245 - Theatre Tech I - Sound (3)

***Design I Course (3 credit hours)***
*Select one of the following:*
THEA 2210 - Costume Design I (3)
THEA 2230 - Scenic Design I (3)
THEA 2240 - Sound Design I (3)
THEA 2250 - Lighting Design I (3)

***Theatre History Course (3 credit hours)***
*Select one of the following:*
THEA 2310 - Theatre History I (3)
THEA 2311 - Theatre History II (3)

***Theatre History/Dramatic Literature Elective Core Course (3 credit hours)***
*Select one of the following or take the Theatre History course not already selected above:*
THEA 2310 - Theatre History I (3)
or THEA 2311 - Theatre History II (3)
THEA 2330 - Shakespeare in History (3)
THEA 3310 - Dramaturgy (3)
THEA 4007 - Topics in Theatre History (1 to 6)
THEA 4008 - Topics in Dramatic Literature (1 to 6)
THEA 4330 - Performance Theory (3)

***Advanced Theatre Practice (2-6 credit hours)***

THEA 3400 (Advanced Theatre Practice) must be taken once by each major. The second enrollment can be a second THEA 3400 or a third THEA 2400, for a minimum of two credits from two enrollments.

THEA 2400 - Technical Theatre Practice (1)
THEA 3400 - Advanced Theatre Practice (1 to 3)

**Concentration Courses (18 credit hours)**
***Required Concentration Courses (9 credit hours)***
THEA 1360 - Applied Theatre in Communities and Schools (3)
THEA 4340 - Theatre Collaboration (3) (SL)
THEA 4375 - Devising and Directing in Community (3)

***Elective Concentration Course I (3 credit hours)***
*Select one of the following:*
AFRS 1100 - Introduction to Africana Studies (3)
EDUC 3200 - Service Learning Teaching Methods for K-12 Educators (3)
HGHR 2100 - Introduction to Holocaust, Genocide, and Human Rights Studies (3)
LTAM 1100 - Introduction to Latin America (3)
RELS 1200 - World Religions (3)
WGST 1101 - Introduction to Women's Studies (3)

***Elective Concentration Course II (3 credit hours)***
*Select one of the following:*
THEA 3310 - Dramaturgy (3)
THEA 4002 - Topics in Applied Theatre (1 to 6)
THEA 4330 - Performance Theory (3)
THEA 4800 - Directed Independent Study (1 to 3)

***Senior Year Course (3 credit hours)***
*Must be taken in the Senior year:*
THEA 4620 - Senior Seminar (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements
All Theatre (THEA) courses must be passed with a grade of C or above, with no more than one grade of D in a Theatre course.

## Honors Program
For details about the Honors Program in Arts + Architecture, see the beginning of the College of Arts + Architecture section.

# Bachelor of Arts in Theatre *with Concentration in Design/Tech*

## Admission Requirements
**Freshmen and Transfers**
- Students who meet the University's admissions requirements are admissible to the major.
- See University Admission Requirements
- *Declaration of Major:* Students can declare the Theatre major on their application for enrollment, after being admitted to the University, or transfer in from another major on campus.
- *Transferable Credit Hours:* Determined by UNC Charlotte Undergraduate Admissions.

**Currently Enrolled Students**
- Currently enrolled UNC Charlotte students may declare the major at any time by completing a Change of Major Form.

## Degree Requirements
The Theatre major with a Concentration in Design/Tech leading to the B.A. degree requires a total of 120 credit hours, including 44 credit hours of theatre courses. This is a structured curriculum. Students must take 26 credit hours of Core Courses before advancing to the prescribed 18 credit hours of the Concentration in Design/Tech.

**College Prospect for Success Course (3 credit hours)**
*All new Theatre Majors in the College of Arts + Architecture must take the following:*
THEA 1140 - The Theatre Experience (3)

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Foreign Language Requirement (0-8 credit hours)**
Students in this major within the College of Arts + Architecture are required to demonstrate proficiency in the language of their choice through the 1202 level. For details, refer to the College of Arts + Architecture Foreign Language Requirements at the beginning of this section.

**Major Courses (26 credit hours)**
***Core Courses (10 credit hours)***
THEA 1265 - Introduction to Stage Performance (3)
THEA 1270 - Acting I (3)
THEA 1300 - Play Analysis (3)
THEA 2600 - Majors Seminar (1)

***Technical Theatre Practice (2 credit hours)***
Must be taken twice by each major.
THEA 2400 - Technical Theatre Practice (1)

***Tech I Course (3 credit hours)***
*Select one of the following:*
THEA 1215 - Theatre Tech I - Costume (3)
THEA 1225 - Theatre Tech I - Scenic (3)

THEA 1235 - Theatre Tech I - Lighting (3)
THEA 1245 - Theatre Tech I - Sound (3)

***Design I Course (3 credit hours)***
*Select one of the following:*
THEA 2210 - Costume Design I (3)
THEA 2230 - Scenic Design I (3)
THEA 2240 - Sound Design I (3)
THEA 2250 - Lighting Design I (3)

***Theatre History Course (3 credit hours)***
*Select one of the following:*
THEA 2310 - Theatre History I (3)
THEA 2311 - Theatre History II (3)

***Theatre History/Dramatic Literature Elective Core Course (3 credit hours)***
*Select one of the following or take the Theatre History course not already selected above:*
THEA 2310 - Theatre History I (3)
or THEA 2311 - Theatre History II (3)
THEA 2330 - Shakespeare in History (3)
THEA 3310 - Dramaturgy (3)
THEA 4007 - Topics in Theatre History (1 to 6)
THEA 4008 - Topics in Dramatic Literature (1 to 6)
THEA 4330 - Performance Theory (3)

***Advanced Theatre Practice (2-6 credit hours)***
THEA 3400 (Advanced Theatre Practice) must be taken once by each major. The second enrollment can be a second THEA 3400 or a third THEA 2400, for a minimum of two credits from two enrollments.

THEA 2400 - Technical Theatre Practice (1)
THEA 3400 - Advanced Theatre Practice (1 to 3)

**Concentration Courses (18 credit hours)**
***Concentration Technology Course (3 credit hours)***
*Select one of the following not already taken in the core:*
THEA 1215 - Theatre Tech I - Costume (3)
THEA 3215 - Theatre Tech II - Costume (3)
THEA 1225 - Theatre Tech I - Scenic (3)
THEA 3225 - Theatre Tech II - Scenic (3)
THEA 1235 - Theatre Tech I - Lighting (3)
THEA 3235 - Theatre Tech II - Lighting (3)
THEA 1245 - Theatre Tech I - Sound (3)
THEA 3246 - Theatre Tech II - Sound (3)

***Concentration Design Course II (3 credit hours)***
*Select one of the following not already taken in the core:*
THEA 2210 - Costume Design I (3)
THEA 4210 - Costume Design II (3)
THEA 2230 - Scenic Design I (3)
THEA 4230 - Scenic Design II (3)
THEA 2240 - Sound Design I (3)
THEA 2250 - Lighting Design I (3)
THEA 4250 - Lighting Design II (3)

***Concentration Elective Courses (9 credit hours)***
*Select three of the following:*
THEA 2215 - Stage Makeup (3)
THEA 2221 - Stage Management (3)
THEA 3211 - Visual Period Styles for Theatre (3)
THEA 3214 - Costume Crafts (3)
THEA 3222 - Theatre Drafting (3)
THEA 3251 - Theatre Production Management (3)
THEA 3256 - Drawing and Rendering for the Theatre (3)
THEA 3300 - Directing I (3)
THEA 4003 - Topics in Design and Technical Theatre (1 to 6)
THEA 4225 - Computer-Aided Design for Theatre (3)
THEA 4400 - Internship in Theatre (3 to 6)
THEA 4601 - Individual Project (1 to 6)

***Senior Year Course (3 credit hours)***
*Must be taken in the Senior year:*
THEA 4620 - Senior Seminar (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements
All Theatre (THEA) courses must be passed with a grade of C or above, with no more than one grade of D in a Theatre course.

## Honors Program
For details about the Honors Program in Arts + Architecture, see the beginning of the College of Arts + Architecture section.

# Bachelor of Arts in Theatre *with Concentration in Directing, Dramaturgy, and Dramatic Writing*

## Admission Requirements
**Freshmen and Transfers**
- Students who meet the University's admissions requirements are admissible to the major.
- See University Admission Requirements
- *Declaration of Major:* Students can declare the Theatre major on their application for enrollment, after being admitted to the University, or transfer in from another major on campus.
- *Transferable Credit Hours:* Determined by UNC Charlotte Undergraduate Admissions.

**Currently Enrolled Students**
Currently enrolled UNC Charlotte students may declare the major at any time by completing a Change of Major Form.

## Degree Requirements

The Theatre major with a Concentration in Directing, Dramaturgy, and Dramatic Writing leading to the B.A. degree requires a total of 120 credit hours, including 44 credit hours of theatre courses. This is a structured curriculum. Students must take 26 credit hours of Core Courses and the prescribed 18 credit hours of the Concentration in Design/Tech (with Senior Seminar).

**College Prospect for Success Course (3 credit hours)**
*All new Theatre Majors in the College of Arts + Architecture must take the following:*
THEA 1140 - The Theatre Experience (3)

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Foreign Language Requirement (0-8 credit hours)**
Students in this major within the College of Arts + Architecture are required to demonstrate proficiency in the language of their choice through the 1202 level. For details, refer to the College of Arts + Architecture Foreign Language Requirements at the beginning of this section.

**Major Courses (26 credit hours)**
***Core Courses (10 credit hours)***
THEA 1265 - Introduction to Stage Performance (3)
THEA 1270 - Acting I (3)
THEA 1300 - Play Analysis (3)
THEA 2600 - Majors Seminar (1)

***Technical Theatre Practice (2 credit hours)***
Must be taken twice by each major.
THEA 2400 - Technical Theatre Practice (1)

***Tech I Course (3 credit hours)***
*Select one of the following:*
THEA 1215 - Theatre Tech I - Costume (3)
THEA 1225 - Theatre Tech I - Scenic (3)
THEA 1235 - Theatre Tech I - Lighting (3)
THEA 1245 - Theatre Tech I - Sound (3)

***Design I Course (3 credit hours)***
*Select one of the following:*
THEA 2210 - Costume Design I (3)
THEA 2230 - Scenic Design I (3)
THEA 2240 - Sound Design I (3)
THEA 2250 - Lighting Design I (3)

***Theatre History Course (3 credit hours)***
*Select one of the following:*
THEA 2310 - Theatre History I (3)
THEA 2311 - Theatre History II (3)

***Theatre History/Dramatic Literature Elective Core Course (3 credit hours)***
*Select one of the following or take the Theatre History course not already selected above:*
THEA 2310 - Theatre History I (3)
or THEA 2311 - Theatre History II (3)
THEA 2330 - Shakespeare in History (3)
THEA 3310 - Dramaturgy (3)
THEA 4007 - Topics in Theatre History (1 to 6)
THEA 4008 - Topics in Dramatic Literature (1 to 6)
THEA 4330 - Performance Theory (3)

***Advanced Theatre Practice (2 credit hours minimum)***
***Advanced Theatre Practice (2-6 credit hours)***
THEA 3400 (Advanced Theatre Practice) must be taken once by each major. The second enrollment can be a second THEA 3400 or a third THEA 2400, for a minimum of two credits from two enrollments.

THEA 2400 - Technical Theatre Practice (1)
THEA 3400 - Advanced Theatre Practice (1 to 3)

**Concentration Courses (18 credit hours)**
***Required Concentration Courses (9 credit hours)***
THEA 2320 - Playwriting I (3)
THEA 3310 - Dramaturgy (3)
THEA 3300 - Directing I (3)

***Elective Concentration Courses (6 credit hours)***
*Select two of the following:*
THEA 2270 - Acting II (3)
THEA 2330 - Shakespeare in History (3)
THEA 4004 - Topics in Directing (1 to 6)
THEA 4300 - Directing II (3)
THEA 4310 - Theatrical Shakespeare (3)
THEA 4330 - Performance Theory (3)
THEA 4340 - Theatre Collaboration (3) (SL)
THEA 4800 - Directed Independent Study (1 to 3)

***Senior Year Course (3 credit hours)***
*Must be taken in the Senior year:*
THEA 4620 - Senior Seminar (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements
All Theatre (THEA) courses must be passed with a grade of C or above, with no more than one grade of D in a Theatre course.

## Honors Program
For details about the Honors Program in Arts + Architecture, see the beginning of the College of Arts + Architecture section.

# Bachelor of Arts in Theatre *with Concentration in Performance*

## Admission Requirements

**Freshmen and Transfers**

- Students who meet the University's admissions requirements are admissible to the major.
- See University Admission Requirements
- *Declaration of Major:* Students can declare the Theatre major on their application for enrollment, after being admitted to the University, or transfer in from another major on campus.
- *Transferable Credit Hours:* Determined by UNC Charlotte Undergraduate Admissions.

**Currently Enrolled Students**

Currently enrolled UNC Charlotte students may declare the major at any time by completing a Change of Major Form.

## Degree Requirements

The Theatre major with a Concentration in Performance leading to the B.A. degree requires a total of 120 credit hours, including 44 credit hours of theatre courses. This is a structured curriculum. Students must take 26 credit hours of Core Courses and the prescribed 18 credit hours of the Concentration in Performance (with Senior Seminar).

**College Prospect for Success Course (3 credit hours)**

*All new Theatre Majors in the College of Arts + Architecture must take the following:*

THEA 1140 - The Theatre Experience (3)

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Foreign Language Requirement (0-8 credit hours)**

Students in this major within the College of Arts + Architecture are required to demonstrate proficiency in the language of their choice through the 1202 level. For details, refer to the College of Arts + Architecture Foreign Language Requirements at the beginning of this section.

**Major Courses (26 credit hours)**

***Core Courses (10 credit hours)***

THEA 1265 - Introduction to Stage Performance (3)
THEA 1270 - Acting I (3)
THEA 1300 - Play Analysis (3)
THEA 2600 - Majors Seminar (1)

***Technical Theatre Practice (2 credit hours)***

Must be taken twice by each major.
THEA 2400 - Technical Theatre Practice (1)

***Tech I Course (3 credit hours)***

*Select one of the following:*
THEA 1215 - Theatre Tech I - Costume (3)
THEA 1225 - Theatre Tech I - Scenic (3)
THEA 1235 - Theatre Tech I - Lighting (3)
THEA 1245 - Theatre Tech I - Sound (3)

***Design I Course (3 credit hours)***

*Select one of the following:*
THEA 2210 - Costume Design I (3)
THEA 2230 - Scenic Design I (3)
THEA 2240 - Sound Design I (3)
THEA 2250 - Lighting Design I (3)

***Theatre History Course (3 credit hours)***

*Select one of the following:*
THEA 2310 - Theatre History I (3)
THEA 2311 - Theatre History II (3)

***Theatre History/Dramatic Literature Elective Core Course (3 credit hours)***

*Select one of the following or take the Theatre History course not already selected above:*
THEA 2310 - Theatre History I (3)
or THEA 2311 - Theatre History II (3)
THEA 2330 - Shakespeare in History (3)
THEA 3310 - Dramaturgy (3)
THEA 4007 - Topics in Theatre History (1 to 6)
THEA 4008 - Topics in Dramatic Literature (1 to 6)
THEA 4330 - Performance Theory (3)

***Advanced Theatre Practice (2 credit hours minimum)***

THEA 3400 (Advanced Theatre Practice) must be taken once by each major. The second enrollment can be a second THEA 3400 or a third THEA 2400, for a minimum of two credits from two enrollments.

THEA 2400 - Technical Theatre Practice (1)
THEA 3400 - Advanced Theatre Practice (1 to 3)

**Concentration Courses (18 credit hours)**

***Required Concentration Courses (9 credit hours)***

THEA 2260 - Voice, Text, and the Actor (3)
THEA 2270 - Acting II (3)
THEA 2280 - Acting in Physical Theatre (3)

***Elective Concentration Courses (6 credit hours)***

*Select two of the following:*
THEA 3202 - Audition Techniques (3)
THEA 3207 - Acting for the Musical Theatre (3)
THEA 3290 - Acting on Camera (3)
THEA 4005 - Topics in Theatre Performance (1 to 6)
THEA 4205 - Stage Dialects (3)
THEA 4282 - Summer Contemporary Circus Intensive (3)
THEA 4310 - Theatrical Shakespeare (3)

***Senior Year Course (3 credit hours)***

*Must be taken in the Senior year:*
THEA 4620 - Senior Seminar (3)

**Unrestricted Elective Courses, Double Major and/or Minor to**

**Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements
All Theatre (THEA) courses must be passed with a grade of C or above, with no more than one grade of D in a Theatre course.

## Honors Program
For details about the Honors Program in Arts + Architecture, see the beginning of the College of Arts + Architecture section.

# Bachelor of Arts in Theatre *with Concentration in Theatre Education*
The Bachelor of Arts (B.A.) in Theatre with a Concentration in Theatre Education prepares students for K-12 Theatre Education licensure in North Carolina. It is designed for students who wish to become theatre teachers in public schools.

## Admission Requirements
**Freshmen and Transfers**
- Students who meet the University's admissions requirements are admissible to the major.
- See University Admission Requirements
- *Transferable Credit Hours:* Determined by UNC Charlotte Undergraduate Admissions

**Currently Enrolled Students**
- *Pre-Major*: Students seeking K-12 Theatre Education licensure should contact the Arts Education Specialist within their first year. A later semester may result in a delayed graduation date.
- *Declaration of Major*: Currently enrolled UNC Charlotte students may declare the Theatre major at any time by meeting with the Arts Education Specialist. Students begin by declaring a Major in Theatre and completing recommended coursework for the Theatre Education concentration in the first three semesters. Approximately third semester, students apply to Teacher Education. See Progression Requirements.
- Following completion of recommended coursework for the Theatre Education concentration in the first three semesters, students may apply to the Teacher Education Concentration.

## Degree Requirements
The Theatre major with a Concentration in Theatre Education to the B.A. degree requires a total of 120 credit hours, including 71 credit hours of theatre and education courses. This is a structured curriculum. Students must take 29 credit hours of Core Courses before advancing to the prescribed 45 credit hours of the Concentration Theatre Courses.

**College Prospect for Success Course (3 credit hours)**

*All new Theatre Majors in the College of Arts + Architecture must take the following:*
THEA 1140 - The Theatre Experience (3)

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Foreign Language Requirement (0-8 credit hours)**
Students in this major within the College of Arts + Architecture are required to demonstrate proficiency in the language of their choice through the 1202 level. For details, refer to the College of Arts + Architecture Foreign Language Requirements at the beginning of this section.

**Major Courses (26 credit hours)**
***Core Courses (10 credit hours)***
THEA 1265 - Introduction to Stage Performance (3)
THEA 1270 - Acting I (3)
THEA 1300 - Play Analysis (3)
THEA 2600 - Majors Seminar (1)

***Technical Theatre Practice (2 credit hours)***
Must be taken twice by each major.
THEA 2400 - Technical Theatre Practice (1)

***Tech I Course (3 credit hours)***
*Select one of the following:*
THEA 1215 - Theatre Tech I - Costume (3)
THEA 1225 - Theatre Tech I - Scenic (3)
THEA 1235 - Theatre Tech I - Lighting (3)
THEA 1245 - Theatre Tech I - Sound (3)

***Design I Course (3 credit hours)***
*Select one of the following:*
THEA 2210 - Costume Design I (3)
THEA 2230 - Scenic Design I (3)
THEA 2240 - Sound Design I (3)
THEA 2250 - Lighting Design I (3)

***Theatre History Course (3 credit hours)***
*Select one of the following:*
THEA 2310 - Theatre History I (3)
THEA 2311 - Theatre History II (3)

***Theatre History/Dramatic Literature Elective Core Course (3 credit hours)***
*Select one of the following or take the Theatre History course not already selected above:*
THEA 2310 - Theatre History I (3)
or THEA 2311 - Theatre History II (3)
THEA 2330 - Shakespeare in History (3)
THEA 3310 - Dramaturgy (3)
THEA 4007 - Topics in Theatre History (1 to 6)
THEA 4008 - Topics in Dramatic Literature (1 to 6)
THEA 4330 - Performance Theory (3)

***Advanced Theatre Practice (2-6 credit hours)***

THEA 3400 (Advanced Theatre Practice) must be taken once by each major. The second enrollment can be a second THEA 3400, a third THEA 2400, or THEA 2470 for Education Concentration majors for a minimum of two credits from two enrollments.

THEA 2400 - Technical Theatre Practice (1)
THEA 2470 - Theatre Teaching Practicum (1)
THEA 3400 - Advanced Theatre Practice (1 to 3)

**Concentration Courses (44 credit hours)**
***Pre-Theatre Education Concentration Courses (6 credit hours)***
THEA 1360 - Applied Theatre in Communities and Schools (3)
*One of the following:*
EDUC 1511 - Local Social Science: Public Education and Schooling in the U.S. (3 to 4)
or MDSK 2100 - Foundations of Education in Secondary Schools (3)

***Concentration Theatre Courses (29 credit hours)***
THEA 2221 - Stage Management (3)
THEA 2470 - Theatre Teaching Practicum (1)
THEA 3300 - Directing I (3)
THEA 3400 - Advanced Theatre Practice (1 to 3)
THEA 4360 - Theatre for Young Audiences (3)
THEA 4370 - Theatre/Drama Curriculum and Methods K-12 (3)
THEA 4375 - Devising and Directing in Community (3)
or THEA 4340 - Theatre Collaboration (3) (SL)
THEA 4467 - Student Teaching/Seminar: K-12 Fine and Performing Arts: Theatre (12)

***Concentration Education Courses (8-9 credit hours)***
EDUC 4290 - Inclusion of Students with Varied Learning Needs (3)
MDLG 3130 - The Early Adolescent Learner (3)
or MDSK 3100 - The Connected Classroom (3)
or MDSK 4210 - Classroom Leadership (2)
SPED 2100 - Exceptionality in Schools and Society (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements
To be formally admitted to the Theatre Education concentration, students must achieve the following:

- Minimum overall GPA of 2.7
- *Pre-Major/Prerequisite Courses:*
  - MDSK 2100 or EDUC 1511 with grade of C or above
  - THEA 1360 with grade of C or above
- Achieve passing scores on Praxis Core (or proven exemption via test scores)
- Application to Teacher Education (includes a clear background check and signed professional dispositions statement)

**Admission to Upper Division**
After being accepted to Teacher Education, students may progress to upper level Theatre Education coursework.

## Special Policies or Requirements
To progress to student teaching, students must earn a minimum 2.75 GPA in all Theatre and Education courses and a minimum 2.5 cumulative GPA. A minimum grade of C is required for all major courses, with no more than one grade of D allowed in a Theatre course. Additionally, students must earn a grade of P in Student Teaching and a minimum edTPA score of 38 to be recommended for licensure.

## Honors Program
For details about the Honors Program in Arts + Architecture, see the beginning of the College of Arts + Architecture section.

# Minor in Theatre

## Admission Requirements
**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

## Minor Requirements
A Minor in Theatre requires 18 credit hours.

**Required Courses (6 credit hours)**
THEA 1300 - Play Analysis (3)

*Select one of the following:*
THEA 1502 - Global Arts/Humanities: Theatre in Global Contexts (3)
THEA 1512 - Local Arts/Humanities: Theatre in the United States (3)

**Elective Courses (12 credit hours)**
*Select four of the following:*
THEA xxxx - Theatre Elective (3)
THEA xxxx - Theatre Elective (3)
THEA xxxx - Theatre Elective (3)
THEA xxxx - Theatre Elective (3)

## Total = 18 Credit Hours

## Progression Requirements
All Theatre (THEA) courses must be passed with a grade of C or above, with no more than one grade of D in a Theatre course.

# Belk College of Business

# Belk College of Business

belkcollege.charlotte.edu

The vision of the Belk College of Business is to be a leading urban research business school. We are committed to creating an inclusive culture that inspires a passion for knowledge and intellectual growth, as well as dedication to service. We engage in research that fosters innovative business theory, policy, and practice. In strategic partnership with the Greater Charlotte region, we educate our students to become leaders who are critical thinkers, ethically informed, and globally aware. In carrying out our mission, the Belk College of Business is committed to the following shared values:

- **Integrity:** We embrace integrity as the fundamental basis for trust, leadership, and organizational culture.
- **Knowledge and Innovation:** We are dedicated to encouraging intellectual curiosity, advancing knowledge, and promoting innovation.
- **Excellence:** We have a passion for excellence in business, research, and education.
- We foster an environment that is based on mutual respect, broadens understanding, and builds trust.
- **Global Citizenship:** We promote ethically principled and sustainable global practices that foster economic and social value.

The College of Business consists of the following departments:

- **Turner School of Accountancy**
- **Department of Business Information Systems and Operations Management**
- **Department of Economics**
- **Department of Finance**
- **Department of Management**
- **Department of Marketing**

## Degree Programs

### Majors

The Belk College of Business offers undergraduate majors with additional concentrations for students at UNC Charlotte. Students who apply for and are accepted into the Belk College of Business are initially classified as Pre-Accounting (PACC), Pre-Business (PBUS), or Pre-Economics (PECO) majors. Students must have earned a minimum cumulative GPA of 2.7, and a minimum grade of C in the Progression Requirements, in order to be accepted into one of the major programs. These majors include:

- Accounting
- Business Administration
- Business Analytics
- Economics with Concentration in Business
- Economics with Concentration in Liberal Arts
- Finance with Concentration in Finance
- Finance with Concentration in Finance and Accounting
- Finance with Concentration in Real Estate
- Finance with Concentration in Risk Management and Insurance
- International Business
- Management with Concentration in Organizational Management
- Management with Concentration in Human Resource Management
- Management Information Systems
- Marketing with Concentration in Marketing
- Marketing with Concentration in Digital/AI Marketing
- Operations and Supply Chain Management

### Minors

The Belk College of Business offers four minors for students at UNC Charlotte. Students must earn a minimum cumulative GPA of 2.7 in order to be accepted into the minor programs. Students must take all prerequisites for the courses required in the minor programs. These minors include:

- AI in Business
- Economics
- Global Business Foundations Abroad
- International Management
- Management Information Systems
- Operations and Supply Chain Management

### Undergraduate Certificates

- Entrepreneurship

#### Graduate Early Entry Programs

- Accountancy, M.Acc., Early Entry
- Data Science and Business Analytics, M.S. or Graduate Certificate, Early Entry
- Economics, M.S., Early Entry
- Financial Engineering and Fin Tech, M.S., Early Entry

### Accreditation

See the "Academic Programs" section of this Catalog for details about program accreditation.

## Degree Requirements

All business degrees are composed of: (1) General Education Requirements, (2) Progression Requirements, (3) Core Requirements, (4) Major Requirements, and (5) Electives. To graduate from UNC Charlotte, students must attain a minimum 120 earned credit hours. "Non-Business Elective" and "General Elective" credit hours may be required to address any shortfall needed to meet the 120 earned hours. A Non-Business Elective can be any course offered by the University outside the Belk College of Business. A General Elective can be any course offered by the University that is not already fulfilling a degree requirement.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

### Catalog Policies

The Belk College reserves the right to impose new curriculum changes at any time. Students unsure of which catalog to use should consult with their Academic and Career Coach. Readmitted students are automatically considered under the program and degree requirements in force at the time of readmission.

### Course Level and Prerequisite Restrictions

The Belk College restricts the registration of upper-division business courses (3000-level) only to majors who have attained Junior or Senior standing and satisfied course prerequisites. *Course prerequisites are strongly enforced and cannot be waived.* For one term, Pre-Accounting, Pre-Business, and Pre-Economics students with a minimum cumulative GPA of 2.7 and 60 earned credit hours may register for 3000-level business courses provided that all necessary prerequisites have been met. The Belk College reserves the right to remove students from any courses for which prerequisites (including minimum GPA requirements) have not been successfully met. Students enrolling in MGMT 3280 (Strategic Management) must have achieved Senior-level status and have completed all Core Courses with minimum grades of C or above. *Pre-Accounting, Pre-Business, and Pre-Economics students may not enroll in MGMT 3280.*

### Grade Replacement and Repeat Policies

*Students are permitted two attempts at any course in the Belk College of Business.* An attempt is defined as a course that is completed with a final grade of A, B, C, D, or F. This includes all: (1) Progression Requirements, (2) Core Requirements, and (3) Major Requirements. Students who earn less than a grade of C within two attempts in any of these required courses will be ineligible to continue in the major. The Grade Replacement Policy may be applied for business courses; however, the repeated course(s) will still count as an attempt.

### Residency Requirements

In addition to meeting University residency requirements, all students seeking undergraduate degrees in the Belk College must complete at least 50 percent of the Core and Major Requirements at UNC Charlotte. This will vary depending on the major program requirements.

Furthermore, at least half of the hours required for an undergraduate degree in the Belk College of Business must be taken outside of the Belk College in order to have a well-rounded and balanced university education and experience. These 60 hours are designated as "Non-Business." In addition to the General Education Requirements, the following courses are designated as Non-Business: ECON 2101, ECON 2102, ECON 3125, MATH 1120, and STAT 1220.

## Transfer and Second-Degree Students

The Belk College of Business major programs are designed to allow transfer students from community colleges and other institutions to enter the program and complete their degree requirements at UNC Charlotte. It is very important that students meet with an advisor at their community college or other institution to plan courses that will be accepted into the Belk College of Business. Due to AACSB accreditation standards, equivalency for upper-division business courses may be denied. Transfer credits allowed may be limited due to University and College residency requirements. Transfer equivalencies are granted upon admission to UNC Charlotte.

## Transfer Credit and Transient Study

Once a student is admitted into the Belk College of Business, they are prohibited from transferring in coursework (including Progression, Core, and Major Courses) from other institutions without prior approval. This policy applies to courses taken from any other institution. Approvals are limited to 1000- and 2000-level courses taken during Summer terms and a maximum of six (6) credit hours of 3000-level courses taken during Summer terms. Approval may be denied due to University or College residency requirements. Equivalency for upper-division business courses may be denied.

# Business Honors Program

The Business Honors Program (BHP) provides students with access to a range of opportunities designed to stimulate their thinking and broaden their exposure to topics related to business.

The Business Honors Program is committed to the highest principles of professionalism that guide our actions. We aspire to be a community of learners actively engaged in academic scholarship while demonstrating a high regard for others by modeling excellent ethical standards. We seek to promote service above self and to support and encourage, educate and mentor, value and empathize with others. We advocate these core values among the membership. The core values of the Business Honors Program are based upon a commitment to academic merit, integrity, respect, service above self, and honor.

### Admission Requirements

### All Students

See University Admission Requirements. Students interested in being admitted to the Business Honors Program must complete an *Application for Admission*. Admission to the program is based on the student's demonstrated honors potential and availability of space in the program. Honors potential is determined by examining GPA (minimum 3.5 for currently enrolled and transfer students), SAT or ACT scores (for new freshmen), courses completed, academic and other distinctions, activities, community service, and other related factors. All admitted students must earn and maintain a minimum 3.5 GPA at UNC Charlotte to be an active member of the program. Students failing to meet minimum requirements of the 3.5 GPA, attendance at BHP meetings, and participation in community service events will not be able to continue in the program.

### Course Requirements

A minimum of 9 credit hours of honors courses are required to graduate with Business Honors. Business Honors students are required to complete additional honors coursework depending upon the student's point of entry as outlined below.

Students in the Business Honors Program must complete 3 of the 4 Business Honors courses offered. Business Honors courses may include:

BUSN 1701 - Practicum I: Corporate Citizenship (1)
BUSN 2701 - Practicum II: Professionalism and Service Seminar (1)
BUSN 2702 - Practicum III: Leadership and Group Dynamics (1)
BUSN 3701 - Practicum IV: Building Networks for Success (1)

and honors sections of:

BUSN 1101 - Introduction to Business and Professional Development (3) or BUSN 1100 - Freshman Honors Seminar (1)
COMM 3160 - Business Communications (3)
ECON 2101 - Principles of Macroeconomics (3)
ECON 2102 - Principles of Microeconomics (3)
MGMT 3140 - Management and Organizational Behavior (3)
MGMT 3280 - Strategic Management (3)
MKTG 3110 - Principles of Marketing (3)
OPER 3100 - Operations Management (3)

Students will be waived from taking honors sections of courses taken prior to entering the Business Honors Program. Other waivers must be approved in advance by the Director of the Business Honors Program. In addition, students entering the Business Honors Program as freshmen are required to complete 3 credit hours in an HONR course or an honors section of an LBST course. Students entering after the Freshman year are encouraged to take an HONR course or an honors section of an LBST course. Honors courses cannot be repeated. A grade of D or F in any honors course results in a student not being eligible to continue in the program.

### Progression Requirements

To graduate with "Honors in Business," a student must:

- Complete the minimum required honors courses and other requirements
- Complete the Application to Candidacy process for graduating with honors, as directed by the Honors College, one semester prior to graduation
- Receive a grade of at least A in BUSN 4701 or on the Senior Project in the Honors section of MGMT 3280
- Present a GPA of at least 3.5 overall and 3.2 in all honors courses for which a grade was assigned
- Participate in: (1) monthly meetings, (2) community service, (3) either study abroad or an internship; and (4) other requirements as set forth in the BHP Handbook

### Special Policies or Requirements

#### Dual Honors

Business honors students seeking to graduate with dual honors must complete all secondary college/departmental honors requirements, in addition to BHP requirements. In this case, the secondary college/departmental thesis may be allowed to satisfy the BHP capstone project requirement when an appropriate thesis topic and thesis committee are selected. At a minimum, the thesis topic should involve an aspect of business and include at least one thesis committee member from business. Prior approval must be granted by the Business Honors Program Director prior to the Application to Candidacy proposal stage.

## Advising

Academic and Career Coaches and Professional Development staff in the Niblock Student Center support all students in the Belk College of Business. Students meet one-on-one with their Academic and Career Coach and are encouraged to engage in professional development activities that support academic and career success. The Niblock Student Center is dedicated to helping students define their professional goals, engage in success strategies to prepare for the workforce, and complete their degree in a timely manner. Some of the support programs and services offered include:

- Workshops and other programs to promote the development of professional skills
- Events to facilitate student engagement with industry
- Academic courses that allow students to earn credit for qualifying internship experiences
- Guidance on participating in high-impact experiences (HIEs) and coordination of the Gold Standard program

## Internships

Students may apply for academic credit for internship experiences. Internship coursework is graded and requires 150 hours of supervised work experience that directly aligns with a student's declared major. Students may not apply for course credit if the work experience has already concluded, if a student is currently employed and is seeking credit with the same employer, or if the business is family-owned.

Minimum eligibility requirements include the following:

- Junior or Senior standing
- Declared Business Major
- Minimum 2.0 GPA
- ACCT 3312 or ACCT 3324 with grade of C or above (for Accounting majors only)
- MKTG 3110 with grade of C or above (for Marketing majors only)

All application materials must be submitted by the application deadline. Upon review and approval of a qualified internship experience and satisfactory completion of eligibility requirements, students will be issued permission to register for the appropriate internship course.

# Turner School of Accountancy

belkcollege.charlotte.edu/departments/accounting

## Undergraduate Programs

- **B.S. in Accounting**

The Accounting program provides a learning environment in which students acquire conceptual and technical knowledge in the accounting and business areas as well as other essential capabilities for a successful accounting career. The undergraduate accounting curriculum is designed to enable students to:

a) effectively develop, measure, analyze, validate, and communicate financial and other information
b) understand the concepts and methods of economics, finance, marketing, quantitative methods, management, and information systems
c) develop skills, competencies and learning capacities that are essential for a broad education

Graduates should have an excellent foundation for careers in business and accounting. A student who plans to become licensed as a certified public accountant in North Carolina must complete 30 credit hours of upper-level accounting. The undergraduate curriculum allows students to select electives that will prepare them to sit for and pass the CPA exam.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

Please visit the program website for more information: http://academics.charlotte.edu/program/accounting-b-s-on-campus/

## Bachelor of Science in Accounting

### Admission Requirements (Pre-Accounting)

**Freshmen**

Freshman admission is competitive. Students who apply for this major and are accepted into the Belk College of Business are initially classified as Pre-Accounting (PACC) majors. Students interested in pursuing a Major in Accounting should seek admission to the Pre-Accounting program to ensure appropriate advising and support. Students who complete the Progression Course Requirements listed below may declare an upper-division major in Accounting.

- See University Admission Requirements
- *Minimum GPA:* 2.7 overall
- *Pre-Major/Prerequisite/Progression Courses:*
  - ACCT 2121
  - ACCT 3361 or ACCT 2122 (if previously taken)
  - BUSN 1101
  - ECON 2101
  - ECON 2102
  - INFO 2130
  - MATH 1120, MATH 1121, MATH 1241, or MATH 1242
  - STAT 1220, STAT 1221, STAT 1222, or STAT 2122

  [A minimum grade of C is required in all Progression Courses. **N**ote: A minimum grade of B in ACCT 2121 is required in order to take ACCT 3361. Once enrolled at UNC Charlotte, students may attempt each of the Progression Courses listed above a maximum of two times. An attempt is defined as a course that is completed with a final grade of A, B, C, D, or F. Courses repeated under the UNC Charlotte Grade Replacement Policy are excluded from the GPA computation, but will count as an attempt.]

**Transfers**

Transfer students interested in pursuing a Major in Accounting should seek admission to the Pre-Accounting program. Transfer admission requirements for the Pre-Accounting major include the following:

- *Minimum GPA:* 2.7 overall
- *Pre-Major/Prerequisite/Progression Courses:* See Progression Courses above. Minimum grade of C in Progression Courses completed.

**Currently Enrolled Students**

*Declaration of Major and/or Progression Requirements:*

- Junior standing (60 credit hours or more)
- Pre-Accounting Requirements listed above
- Approved Change of Major form
- Pre-Accounting students should submit Change of Major forms to an Academic and Career Coach in the Belk College of Business Niblock Student Center.
- Students who fail to declare their upper-division major on time will be prohibited from declaring their upper-division major in the College if their GPA falls below a 2.7.

## Degree Requirements

The following courses are required. **Students may attempt each of these courses two times.**

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Business Core Courses (24 credit hours)**
BLAW 3150 - Business Law I (3)
COMM 3160 - Business Communications (3)
FINN 3120 - Financial Management (3)
INFO 3130 - Management Information Systems (3)
MGMT 3140 - Management and Organizational Behavior (3)
MGMT 3280 - Strategic Management (3)
MKTG 3110 - Principles of Marketing (3)
OPER 3100 - Operations Management (3)

**Major Courses (24 credit hours)**
*Students are required to take the following 12 credit hours:*
ACCT 3361 - Intermediate Financial Accounting 1 (4)
ACCT 3362 - Intermediate Financial Accounting 2 (4)
ACCT 3365 - Accounting Information Systems (4)

*Students select 12 hours from the following list of approved elective courses:*
ACCT 3330 - Managerial Accounting and the Decision Process (3)
ACCT 3371 - Financial Statement Analysis (3)
ACCT 3372 - Internal Auditing (3)
ACCT 3900 - Current Developments in Accounting (3)
ACCT 4220 - Income Tax (3)
ACCT 4225 - Accounting Data Analytics (3)
INFO 3221 - Programming for Business Analytics (3)
INFO 3233 - Data and Information Management (3)
INFO 3236 - Business Analytics (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements

Students who do not meet the Progression Requirements above are ineligible for continuation in the Belk College of Business.

To obtain this degree, students must meet the University requirements of a GPA of at least 2.0 overall and in the courses for the major. Students must earn a minimum grade of C in all required Progression, Core, and Major Courses. When students repeat a course, both the old and new grades are included in the overall GPA. Courses repeated under the Grade Replacement Policy are excluded from the overall GPA computation. However, this repeated course does count as an attempt. Students must also meet the Belk College of Business residency requirements as described at the beginning of this section.

## Internship

Because the School of Accountancy is committed to experiential learning, it allows for Accounting majors to use one internship for academic credit. Permission of the Accounting Internship Coordinator is required before starting the internship. A minimum of ACCT 3324 or ACCT 3361 with a grade of C or above and an overall GPA of at least 2.0 are required. The student may not have a current or prior work history with the internship company.

# Early Entry: Master of Accountancy

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Acceptable scores on the appropriate graduate standardized test (e.g., GMAT). The GMAT/GRE application requirement may be waived for applicants upon request. Waivers must be requested from the Master of Accountancy Graduate Program Director when submitting the completed application. All GMAT/GRE waivers are at the discretion of the Master of Accountancy Graduate Program Director. If candidates are unable to secure the GMAT/GRE waiver, they will be required to submit official GMAT/GRE test scores in their Master of Accountancy application. The following criteria are the minimum requirements to be considered for a GMAT/GRE waiver.:
    - UNC Charlotte undergraduate accounting students: 3.0 or higher undergraduate GPA (UGPA), 3.0 or higher UGPA from 3000 and 4000 accounting level courses, and must also provide letters of recommendation from three 3000 and/or 4000 accounting professors
    - Undergraduate accounting majors at other universities: 3.0 or higher undergraduate GPA (UGPA), 3.0 or higher UGPA from upper-level accounting level courses, and must also provide letters of recommendation from three upper-level accounting professors.
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

## Progression Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Earn a B or better in the three required Accounting Major courses: ACCT 3361 Intermediate Financial Accounting 1, ACCT 3362

Intermediate Financial Accounting 2, and ACCT 3365 Accounting Information Systems
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

### Special Policies or Requirements

Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.
For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# Business Administration

Business Administration, B.S.B.A. - Academics

## Undergraduate Programs

- **B.S.B.A. in Business Administration**
- **Minor in AI in Business**
- **Minor in Global Business Foundations Abroad**

## Bachelor of Science in Business Administration: Business Administration

The B.S.B.A. in Business Administration (BUSN) provides graduates with fundamental knowledge of key business disciplines with applicability to organizations of varying sizes and industries. The breadth of business is covered in courses in accounting, business analytics, business law, communications, ethics, finance, marketing, management, management information systems, and operations management. Graduates gain competencies in the fundamentals of business, a global perspective, ethical decision making, effective communication, and critical thinking and data analysis skills.

This major requires a minimum of 120 credit hours. Students must complete the General Education Requirements of the University and the Progression, Core, and Major Requirements of the Belk College of Business.

All program-level Admissions and Progression Requirements are in addition to the University of North Carolina at Charlotte Admission Requirements.

Please visit the program website for more information:
https://academics.charlotte.edu/program/business-administration-b-s-b-a-online/

### Admission Requirements

The major is designed to primarily serve transfer students and students with some college who are returning to complete their degree. Prospective students who meet the University's transfer requirements to business but have not yet successfully completed all of the progression courses will be admitted as a Pre-Business major and will be advised while completing the progression courses.

#### General Transfer Admission Requirements

See University Admission Requirements

#### Business Transfer Requirements

- Minimum GPA: 2.7 overall
- "C" or better in all Business Progression Courses completed
- See Pre-Major/Prerequisite/Progression Courses below

#### Pre-Major/Prerequisite/Progression Courses

ACCT 2121
ACCT 2122 or ACCT 3323

BUSN 1101
ECON 2101
ECON 2102
INFO 2130
MATH 1120, MATH 1121, MATH 1241, or MATH 1242
STAT 1220, STAT 1221, STAT 1222, or STAT 2122

A minimum grade of C is required for all Progression Courses. Once enrolled at UNC Charlotte, students may attempt each of the Progression Courses listed above a maximum of two times. An attempt is defined as a course that is completed with a final grade of A, B, C, D, or F. Courses repeated under the UNC Charlotte Grade Replacement Policy are excluded from the GPA computation, but they will count as an attempt.

## Degree Requirements

The following courses are required. Students may attempt each of these courses a maximum of two times.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Business Core Courses (27 credit hours)**
BLAW 3150 - Business Law I (3)
COMM 3160 - Business Communications (3)
ECON 3125 - Managerial Economics (3)
FINN 3120 - Financial Management (3)
INFO 3130 - Management Information Systems (3)
MGMT 3140 - Management and Organizational Behavior (3)
MGMT 3280 - Strategic Management (3)
MKTG 3110 - Principles of Marketing (3)
OPER 3100 - Operations Management (3)

**Major Courses (18 credit hours)**
ACCT 3330 - Managerial Accounting and the Decision Process (3)
MGMT 3282 - Managerial Ethics (3)
FINN 3271 - Principles of Risk Management and Insurance (3)
MGMT 3275 - International Business Management (3)
INFO 3236 - Business Analytics (3)
MKTG 3220 - Digital Marketing and Web Analytics (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements

Students who do not meet the Progression Course Requirements above are ineligible for continuation in the Belk College of Business.

To obtain this degree, students must meet the University requirements of a GPA of at least 2.0 overall and in the courses for the major. Students must earn a minimum grade of C in all required Progression, Core, and Major Courses. When students repeat a course, both the old and new grades are included in the overall GPA. Courses repeated under the Grade Replacement Policy are excluded from the overall GPA computation. However, this repeated course does count as an attempt. Students must also meet the Belk College of Business residency requirements as described at the beginning of this section.

## Honors Program

For details about the Business Honors Program, visit the program page.

# Minor in AI in Business

The Minor in AI in Business equips students with the analytical, technical, and ethical foundation to apply artificial intelligence in organizational settings. Through AI-focused coursework across business disciplines, students learn how AI creates value and strengthens decision-making. The curriculum emphasizes responsible and ethical AI use, evaluation of technology options, and assessment of associated risks and benefits. Real-world cases and communication scenarios help students interpret data, evaluate decision quality, and understand the strategic impact of AI adoption. Graduates will be prepared to apply AI responsibly to support effective decision-making, improve efficiency, and advance organizational operations.

## Admission Requirements

See University Admission Requirements.

To be accepted into the AI in Business minor, students must present a minimum 2.5 cumulative GPA and must be at least a junior standing. The AI in Business Minor is only open to students majoring in the Belk College of Business.

## Required Minor Course (3 credit hours)

INFO 4214 - AI for Business Competitive Advantage (3)

## Elective Minor Courses (12 credit hours)

*Select four of the following courses:*
ECON 4182 - Economics of Artificial Intelligence (3)
FINN 4162 - Innovations in Financial Technology and AI (3)
INFO 3236 - Business Analytics (3)
INFO 3239 - Artificial Intelligence in Business (3)
MKTG 3219 - AI in Marketing (3)

## Total = 15 Credit Hours

## Progression Requirements

To obtain this minor, students must meet the University requirements of a GPA of at least 2.0 overall and in the courses for the minor. Students must earn a minimum grade of C in all required and elective minor courses and their prerequisite courses. When students repeat a course, both the old and new grades are included in the overall GPA. Courses repeated under the Grade Replacement Policy are excluded from the overall GPA computation. However, this repeated course does count as an attempt. Students must also meet the Belk College of Business residency requirements listed under the "Degree Requirements" heading on the main College of Business page.

## Minor in Global Business Fundamentals Abroad

The Global Business Foundations Abroad Minor provides students from non-business majors with a structured introduction to core business principles while immersing them in global learning experiences. The minor highlights the interconnectedness of business practices across cultures and develops practical skills for today's global marketplace. Through foundational coursework and applied cross-cultural experiences abroad, students gain exposure to key business functions, including management, marketing, finance, accounting, and data-informed decision making. This minor is an excellent complement for students pursuing careers that require global awareness, adaptability, and intercultural competence. The courses in this minor are only available as part of this study abroad program.

### Admission Requirements

To be accepted into the Global Business Foundations Abroad Minor, students must be pursuing a major outside of business, present a minimum 2.5 cumulative GPA and be at least a sophomore standing.

### Required Minor Courses (15 credit hours)

BUSN 2350 - Survey of Business (3)
BUSN 2360 - Cross Cultural Management (3)
BUSN 2370 - Foundations of Marketing (3)
BUSN 2380 - Foundations of Finance and Accounting (3)
BUSN 2390 - Essentials of Business Decision Making (3)

### Total = 15 Credits

### Progression Requirements

To obtain this minor, students must meet the University requirements of a GPA of at least 2.0 overall and in the courses for the minor. Students must earn a minimum grade of C in all required minor courses.

### Special Policies or Requirements

Courses completed for this minor are exclusive to the minor and cannot be applied toward degree requirements for Belk College majors.

# Department of Business Information Systems and Operations Management

belkcollege.charlotte.edu/departments/bisom

## Undergraduate Programs

- **B.S.B.A. in Business Analytics**
- **B.S.B.A. in Management Information Systems**
- **B.S.B.A. in Operations and Supply Chain Management**
- **Minor in Management Information Systems**
- **Minor in Operations and Supply Chain Management**
- **Early Entry: M.S. in Data Science and Business Analytics** *(see the School of Data Science section)*

The Department of Business Information Systems and Operations Management (BISOM) offers majors in three dynamic disciplines toward the Bachelor of Science in Business Administration (B.S.B.A.) degree and two minors. All businesses and not-for-profit organizations provide ample career opportunities in Business Analytics, Management Information Systems, and Operations and Supply Chain Management.

- The **Major in Business Analytics** involves collecting and analyzing data using computational, statistical, and mathematical models and methods to achieve competitive advantage. The program prepares students with the ability to unlock the potential of data to gain business insights, improve business decision making, and solve business problems. The major prepares graduates for jobs involving data-driven business intelligence, decision models, and big data analytics and for graduate education.

- The **Major in Management Information Systems (MIS)** prepares students to understand and use information systems that support improved decision making and business operations leading to enhanced quality of management and growth of the organization. The major produces graduates who bridge the gap between technical knowledge and business functions. Potential careers include systems/business analyst, consultant, data analyst, network specialist, systems developer, application programmer, project manager, technical support specialist, and Web designer. A minor is also offered in this area.

- The **Major in Operations and Supply Chain Management (OSCM)** focuses on the management of resources and processes of an organization to provide quality goods and services. While OSCM has always been important in manufacturing, service organizations have discovered the importance of being able to effectively and efficiently manage operations. OSCM prepares students for careers in the areas of supply chain management, production planning, project management, quality assurance, and operations. A minor is also offered in this area.

All three majors offer students an integrated background in the functional areas of business and focus on enhancing problem-solving and critical thinking skills using current technology. The majors in Business Analytics and Management Information Systems are designated STEM programs.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

# Bachelor of Science in Business Administration: Business Analytics

A Major in Business Analytics (BUAY) involves collecting and analyzing data using computational, statistical, and mathematical models and methods to achieve competitive advantage through better decisions in uncertain business environments. The BUAY major prepares graduates for jobs involving data-driven business intelligence, decision models, and big data analytics and for graduate education in Data Science and Business Analytics, Supply Chain Management, Mathematical Finance, Marketing, and Economics.

### Who uses Business Analytics?

All businesses and not-for-profit organizations nowadays use Business Analytics. Thanks to the rapid development of information technology and telecommunications, these organizations have an opportunity to make use of various types of big data and sophisticated analytics tools at a cost more affordable than ever before. The numerous tools and techniques developed for descriptive, predictive, and prescriptive analytics help the organizations make informed decisions on day-to-day operations and long-term strategic planning.

Skills for Business Analytics majors include:

- Analytical problem solving
- Business process skills
- Communication skills
- Information technology skills
- Organizational skills

Please visit the program website for more information:
https://academics.charlotte.edu/program/business-analytics-b-s-b-a-on-campus/

## Admission Requirements (Pre-Business)

### Freshmen

Freshman admission is competitive. Students who apply for this major and are accepted into the Belk College of Business are initially classified as Pre-Business (PBUS) majors. Students interested in pursuing a Major in Business Analytics, Finance, International Business, Management, Management Information Systems, Marketing, or Operations and Supply Chain Management should seek admission to the Pre-Business program to ensure appropriate advising and support. Students who complete the Progression Course Requirements listed below may declare an upper-division Major in Business Analytics, Finance, International Business, Management, Management Information Systems, Marketing, or Operations and Supply Chain Management.

- See University Admission Requirements
- *Minimum GPA:* 2.7 overall
- *Pre-Major/Prerequisite/Progression Courses:*
  - ACCT 2121
  - ACCT 2122 or ACCT 3323
  - BUSN 1101
  - ECON 2101
  - ECON 2102
  - INFO 2130
  - MATH 1120, MATH 1121, MATH 1241, or MATH 1242
  - STAT 1220, STAT 1221, STAT 1222, or STAT 2122

  [A minimum grade of C is required for all Progression Courses. Once enrolled at UNC Charlotte, students may attempt each of the Progression Courses listed above a maximum of two times. An attempt is defined as a course that is completed with a final grade of A, B, C, D, or F. Courses repeated under the UNC Charlotte Grade Replacement Policy are excluded from the GPA computation, but will count as an attempt.]

### Transfers

Transfer students interested in pursuing a Major in Business Analytics, Finance, International Business, Management, Management Information Systems, Marketing, or Operations and Supply Chain Management should seek admission to the Pre-Business program. Transfer admission requirements for the Pre-Business major include the following:

- See University Admission Requirements
- *Minimum GPA:* 2.7 overall
- *Pre-Major/Prerequisite/Progression Courses:* See Progression Courses above. Minimum grade of C in Progression Courses completed.

### Currently Enrolled Students

*Declaration of Major and/or Progression Course Requirements:*

- Junior standing (60 credit hours or more)
- Pre-Business Requirements listed above
- Approved Change of Major form.
- Pre-Business students should submit Change of Major forms to an Academic and Career Coach in the Belk College of Business Niblock Student Center.
- Students who fail to declare their upper-division major on time will be prohibited from declaring their upper-division major in the College if their GPA falls below a 2.7.

## Degree Requirements

This major requires a minimum of 120 credit hours. Students must complete the General Education Requirements of the University and the Progression, Core, and Major Requirements of the Belk College of Business.

### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

### Business Core Courses (27 credit hours)

BLAW 3150 - Business Law I (3)
COMM 3160 - Business Communications (3)
ECON 3125 - Managerial Economics (3)

FINN 3120 - Financial Management (3)
INFO 3130 - Management Information Systems (3)
MGMT 3140 - Management and Organizational Behavior (3)
MGMT 3280 - Strategic Management (3)
MKTG 3110 - Principles of Marketing (3)
OPER 3100 - Operations Management (3)

**Major Courses (12 credit hours)**
ECON 3112 - Econometrics (3)
INFO 3221 - Programming for Business Analytics (3)
INFO 3233 - Data and Information Management (3)
INFO 3236 - Business Analytics (3)

**Restricted Elective Courses (6 credit hours)**
*Select two of the following:*
BUSA 3000 - Topics in Business Analytics (3)
BUSA 3400 - Business Analytics Internship (3)
ECON 4112 - Advanced Econometrics (3)
INFO 3237 - Business Analytics II (3)
INFO 3238 - Social Media Analytics and Application (3)
MKTG 3228 - Marketing Analytics (3)
OPER 3203 - Decision Modeling and Analysis (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## High-Impact Experience
To obtain this degree, students must complete at least one high-impact experience (e. g., internship, study abroad, project-based learning, case competition (or similar experience) or undergraduate research). Students with current, relevant work experience may seek approval to use that experience to fulfill the high-impact experience degree requirement.

## Progression Requirements
Students who do not meet the Progression Course Requirements above are ineligible for continuation in the Belk College of Business.

To obtain this degree, students must meet the University requirements of a GPA of at least 2.0 overall and in the courses for the major. Students must earn a minimum grade of C in all required Progression, Core, and Major Courses. When students repeat a course, both the old and new grades are included in the overall GPA. Courses repeated under the Grade Replacement Policy are excluded from the overall GPA computation. However, this repeated course does count as an attempt. Students must also meet the Belk College of Business residency requirements as described at the beginning of this section.

# Bachelor of Science in Business Administration: Management Information Systems

A Major in MGIS involves the application of information technology and analytical skills to the solution of organizational problems and opportunities for innovation. MGIS graduates are prepared for positions in the design, planning, development, implementation, and management of information systems.

**Who uses Management Information Systems?**
All businesses use MGIS to make forecasts, manage day-to-day operations, schedule personnel and equipment, manage quality and inventory, work with suppliers, and undertake projects. In addition, management depends on information systems to collect and analyze data to make decisions. Data on customers, suppliers, competitors, and others are the main inputs to decision making at all levels of the organization. While all organizations have information systems needs, some industries have much greater reliance on them. These include banking, insurance, large-scale retailing, and communications.

Skills for Management Information Systems majors include:
- Analytical problem solving
- Business process skills
- Communication skills
- Information technology skills
- Organizational skills

Please visit the program website for more information:
https://academics.charlotte.edu/program/management-information-systems-b-s-b-a-on-campus/

## Admission Requirements (Pre-Business)
**Freshmen**
Freshman admission is competitive. Students who apply for this major and are accepted into the Belk College of Business are initially classified as Pre-Business (PBUS) majors. Students interested in pursuing a Major in Business Analytics, Finance, International Business, Management, Management Information Systems, Marketing, or Operations and Supply Chain Management should seek admission to the Pre-Business program to ensure appropriate advising and support. Students who complete the Progression Course Requirements listed below may declare an upper-division Major in Business Analytics, Finance, International Business, Management, Management Information Systems, Marketing, or Operations and Supply Chain Management.

- See University Admission Requirements
- *Minimum GPA:* 2.7 overall
- *Pre-Major/Prerequisite/Progression Courses:*
  - ACCT 2121
  - ACCT 2122 or ACCT 3323
  - BUSN 1101
  - ECON 2101
  - ECON 2102
  - INFO 2130
  - MATH 1120, MATH 1121, MATH 1241, or MATH 1242
  - STAT 1220, STAT 1221, STAT 1222, or STAT 2122

[A minimum grade of C is required for all Progression Courses. Once enrolled at UNC Charlotte, students may attempt each of the Progression Courses listed above a maximum of two times. An attempt is defined as a course that is completed with a final grade of A, B, C, D, or F. Courses repeated under the UNC Charlotte Grade Replacement Policy are excluded from the GPA computation, but will count as an attempt.]

**Transfers**

Transfer students interested in pursuing a Major in Business Analytics, Finance, International Business, Management, Management Information Systems, Marketing, or Operations and Supply Chain Management should seek admission to the Pre-Business program. Transfer admission requirements for the Pre-Business major include the following:

- See University Admission Requirements
- *Minimum GPA:* 2.7 overall
- *Pre-Major/Prerequisite/Progression Courses:* See Progression Courses above. Minimum grade of C in Progression Courses completed.

**Currently Enrolled Students**

*Declaration of Major and/or Progression Course Requirements:*

- Junior standing (60 credit hours or more)
- Pre-Business Requirements listed above
- Approved Change of Major form
- Pre-Business students should submit Change of Major forms to an Academic and Career Coach in the Belk College of Business Niblock Student Center.
- Students who fail to declare their upper-division major on time will be prohibited from declaring their upper-division major in the College if their GPA falls below a 2.7.

## Degree Requirements

The following courses are required. **Students may attempt each of these courses two times.**

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Business Core Courses (27 credit hours)**

BLAW 3150 - Business Law I (3)
COMM 3160 - Business Communications (3)
ECON 3125 - Managerial Economics (3)
FINN 3120 - Financial Management (3)
INFO 3130 - Management Information Systems (3)
MGMT 3140 - Management and Organizational Behavior (3)
MGMT 3280 - Strategic Management (3)
MKTG 3110 - Principles of Marketing (3)
OPER 3100 - Operations Management (3)

**Major Courses (9 credit hours)**

INFO 3221 - Programming for Business Analytics (3)
INFO 3233 - Data and Information Management (3)
INFO 3234 - Business Information Systems Analysis and Design (3)

**Restricted Elective Courses (6 credit hours)**

***Management Information Systems Elective Courses***

*Select one or two of the following:*

INFO 3000 - Topics in Management Information Systems (3)
INFO 3229 - Business Data Communications and Information Security (3)
INFO 3230 - Enterprise Systems (3)
INFO 3231 - Business Applications Development (3)
INFO 3236 - Business Analytics (3)
INFO 3240 - eBusiness Systems (3)
INFO 3400 - Management Information Systems Internship (3)
INFO 3800 - Directed Study (1 to 6)
INFO 3238 - Social Media Analytics and Application (3)

***Operations Management Elective Courses***

*Select one of the following if only one course was selected above:*

OPER 3203 - Decision Modeling and Analysis (3)
OPER 3204 - Management of Service and Project Operations (3)
OPER 3206 - Quality Assurance and Management (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## High-Impact Experience

To obtain this degree, students must complete at least one high-impact experience (e. g., internship, study abroad, project-based learning, case competition (or similar experience) or undergraduate research). Students with current, relevant work experience may seek approval to use that experience to fulfill the high-impact experience degree requirement.

## Progression Requirements

Students who do not meet the Progression Course Requirements above are ineligible for continuation in the Belk College of Business.

To obtain this degree, students must meet the University requirements of a GPA of at least 2.0 overall and in the courses for the major. Students must earn a minimum grade of C in all required Progression, Core, and Major Courses. When students repeat a course, both the old and new grades are included in the overall GPA. Courses repeated under the Grade Replacement Policy are excluded from the overall GPA computation. However, this repeated course does count as an attempt. Students must also meet the Belk College of Business residency requirements as described at the beginning of this section.

# Bachelor of Science in Business Administration: Operations and Supply Chain Management

A Major in Operations and Supply Management (OSCM) focuses on the efficient use of resources to provide quality goods and services. OSCM enables students to pursue such careers in supply chain management, production planning, project management, quality assurance, and operations. Environments in which OSCM graduates are in high demand include health care, government, manufacturing, and service industries.

**Who uses Operations and Supply Chain Management?**

All businesses, including for-profit and not-for-profit, manufacturing and services, use OSCM. These businesses have to make forecasts, manage day-to-day operations, schedule personnel and equipment, manage quality and inventory, work with suppliers, and undertake projects. While OSCM has always been important in manufacturing, service organizations are discovering the importance of being able to effectively and efficiently manage operations. Financial services and healthcare industries have been on the leading edge in using OSCM to improve operations. Company expenditures on programs such as Six Sigma, total quality management, and operational risk management are in the billions of dollars.

Skills for Operations and Supply Chain Management majors include:

- Analytical problem solving
- Communication skills
- Information technology skills
- Organizational skills
- Project management skills

Please visit the program website for more information: https://academics.charlotte.edu/program/operations-and-supply-chain-management-b-s-b-a-on-campus/

## Admission Requirements (Pre-Business)

**Freshmen**

Freshman admission is competitive. Students who apply for this major and are accepted into the Belk College of Business are initially classified as Pre-Business (PBUS) majors. Students interested in pursuing a Major in Business Analytics, Finance, International Business, Management, Management Information Systems, Marketing, or Operations and Supply Chain Management should seek admission to the Pre-Business program to ensure appropriate advising and support. Students who complete the Progression Course Requirements listed below may declare an upper-division Major in Business Analytics, Finance, International Business, Management, Management Information Systems, Marketing, or Operations and Supply Chain Management.

- See University Admission Requirements
- *Minimum GPA:* 2.7 overall
- *Pre-Major/Prerequisite/Progression Courses:*
  - ACCT 2121
  - ACCT 2122 or ACCT 3323
  - BUSN 1101
  - ECON 2101
  - ECON 2102
  - INFO 2130
  - MATH 1120, MATH 1121, MATH 1241, or MATH 1242
  - STAT 1220, STAT 1221, STAT 1222, or STAT 2122

  [A minimum grade of C is required for all Progression Courses. Once enrolled at UNC Charlotte, students may attempt each of the Progression Courses listed above a maximum of two times. An attempt is defined as a course that is completed with a final grade of A, B, C, D, or F. Courses repeated under the UNC Charlotte Grade Replacement Policy are excluded from the GPA computation, but will count as an attempt.]

**Transfers**

Transfer students interested in pursuing a Major in Business Analytics, Finance, International Business, Management, Management Information Systems, Marketing, or Operations and Supply Chain Management should seek admission to the Pre-Business program. Transfer admission requirements for the Pre-Business major include the following:

- See University Admission Requirements
- *Minimum GPA:* 2.7 overall
- *Pre-Major/Prerequisite/Progression Courses:* See Progression Courses above. Minimum grade of C in Progression Courses completed.

**Currently Enrolled Students**

*Declaration of Major and/or Progression Course Requirements:*

- Junior standing (60 credit hours or more)
- Pre-Business Requirements listed above
- Approved Change of Major form
- Pre-Business students should submit Change of Major forms to an Academic and Career Coach in the Belk College of Business Niblock Student Center.
- Students who fail to declare their upper-division major on time will be prohibited from declaring their upper-division major in the College if their GPA falls below a 2.7.

## Degree Requirements

The following courses are required. **Students may attempt each of these courses two times.**

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Business Core Courses (27 credit hours)**

BLAW 3150 - Business Law I (3)
COMM 3160 - Business Communications (3)
ECON 3125 - Managerial Economics (3)
FINN 3120 - Financial Management (3)
INFO 3130 - Management Information Systems (3)
MGMT 3140 - Management and Organizational Behavior (3)
MGMT 3280 - Strategic Management (3)
MKTG 3110 - Principles of Marketing (3)
OPER 3100 - Operations Management (3)

**Major Courses (9 credit hours)**

OPER 3201 - Operations Planning and Control (3)
OPER 3204 - Management of Service and Project Operations (3)

OPER 3208 - Supply Chain Management (3)

**Restricted Elective Courses (6 credit hours)**
*Select two of the following:*
ETIN 3133 - Quality Control (3)
INFO 3230 - Enterprise Systems (3)
INFO 3233 - Data and Information Management (3)
INFO 3236 - Business Analytics (3)
OPER 3000 - Topics in Operations Management (3)
OPER 3203 - Decision Modeling and Analysis (3)
OPER 3206 - Quality Assurance and Management (3)
OPER 3400 - Operations and Supply Chain Management Internship (3)
OPER 3800 - Directed Study (3)
SEGR 3670 - Total Quality Systems (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

### High-Impact Experience
To obtain this degree, students must complete at least one high-impact experience (e. g., internship, study abroad, project-based learning, case competition (or similar experience) or undergraduate research). Students with current, relevant work experience may seek approval to use that experience to fulfill the high-impact experience degree requirement.

### Progression Requirements
Students who do not meet the Progression Course Requirements above are ineligible for continuation in the Belk College of Business.

To obtain this degree, students must meet the University requirements of a GPA of at least 2.0 overall and in the courses for the major. Students must earn a minimum grade of C in all required Progression, Core, and Major Courses. When students repeat a course, both the old and new grades are included in the overall GPA. Courses repeated under the Grade Replacement Policy are excluded from the overall GPA computation. However, this repeated course does count as an attempt. Students must also meet the Belk College of Business residency requirements as described at the beginning of this section.

## Minor in Management Information Systems
The Minor in Management Information Systems is designed to provide students who have an interest in business information systems with a broad foundation for integrating information technology techniques and concepts into their major field of study in business. The demand for business graduates who are knowledgeable about designing, planning, developing, managing, and evaluating of information systems continues to increase as the economy moves from a manufacturing to an information base. The demand for MGIS professionals has increased dramatically during the past ten years and the trend is expected to continue. However, there is also an increase in the demand for management information systems professionals who have an in-depth understanding of the application domain and who can apply MGIS concepts in contexts which are more specific to their major. Thus, professionals with a primary interest and expertise in marketing, health care, banking, finance, accounting, and management are being sought by business application-area specialists.

The focus of the Minor in MGIS is to impart a framework for understanding MGIS and for utilizing its tools to the student's major. The minor will offer graduates a competitive advantage in terms of the types of positions for which they qualify. Graduates of the program will be able to act as technical liaisons between MGIS professionals and their "home" departments, as sales specialists for specialized software/applications systems, and as technical representatives.

The Minor in MGIS is directed not only at UNC Charlotte students majoring in business but also those majoring in other Colleges. The benefits of a Minor in MGIS include increased marketability in information-dependent firms in the public and private sector and the ability to leverage one's major discipline with state-of-the-art computing knowledge. A key benefit of taking MGIS courses is that students learn to effectively use technology in business settings.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

To be accepted into the Minor in MGIS and to progress into the upper-division of the College, a student must present a minimum 2.7 GPA overall and Junior standing.

### Minor Requirements
A Minor in Management Information Systems requires a minimum 15 credit hours (five courses) for students who have taken the business prerequisites listed below. **Students may attempt each of these courses two times.**

**Prerequisite Courses (18 credit hours)**
ACCT 2121 - Principles of Accounting I (3)
ACCT 2122 - Principles of Accounting II (3)
ECON 2101 - Principles of Macroeconomics (3)
ECON 2102 - Principles of Microeconomics (3)
MATH 1120 - Calculus (3)
STAT 1220 - Elements of Statistics I (3)

**Required Minor Courses (12 credit hours)**
INFO 2130 - Introduction to Business Computing (3)*
INFO 3130 - Management Information Systems (3)
INFO 3233 - Data and Information Management (3)
INFO 3234 - Business Information Systems Analysis and Design (3)

**All Computer Science majors will be exempted from INFO 2130. Other students with sufficient background can apply for Credit by Exam for INFO 2130.*

**Elective Minor Course (3 credit hours)**
*Select one of the following courses:*
ACCT 3340 - Accounting Information Systems (3)
INFO 3000 - Topics in Management Information Systems (3)

INFO 3221 - Programming for Business Analytics (3)
INFO 3231 - Business Application Development (3)
INFO 3236 - Business Analytics (3)
INFO 3229 - Business Data Communications and Information Security (3)
INFO 3240 - eBusiness Systems (3)
OPER 3203 - Decision Modeling and Analysis (3)

### Total = 15 Credit Hours

### Progression Requirements
To obtain this minor, students must meet the University requirements of a GPA of at least 2.0 overall and in the courses for the minor. Students must earn a minimum grade of C in all required and elective minor courses and their prerequisite courses. When students repeat a course, both the old and new grades are included in the overall GPA. Courses repeated under the Grade Replacement Policy are excluded from the overall GPA computation. However, this repeated course does count as an attempt. Students must also meet the Belk College of Business residency requirements as described at the beginning of this section.

## Minor in Operations and Supply Chain Management
The Minor in Operations and Supply Chain Management (OSCM) is designed to provide business and non-business students who have an interest in supply chain management, manufacturing, and service operations with a broad foundation of OSCM concepts and analytical methodology to be integrated into their major field of study.

The demand for graduates who are knowledgeable about designing, planning, evaluating, and managing supply chains, production, and service systems continues to increase. There is also an increase in the demand of OSCM professionals who can define strategic and operational problems, collect relevant data, and apply advanced analytical techniques to improve the performance of firms. OSCM courses deal with supply chains, service systems, and manufacturing organizations. These areas examine the production function of an organization at a strategic level, as well as the plant and shop floor level. Areas included in the OSCM program include operations strategy, process analysis, product design, quality management, logistics management, procurement, supply chain management, project management, and waiting line management as well as analytical techniques such as optimization and simulation.

The minor offers graduates a competitive advantage in terms of the types of positions for which they qualify. The Minor in OSCM is directed not only at UNC Charlotte students majoring in business but also those majoring in other Colleges. The benefits of a minor in OSCM include increased marketability in the public and private sector and the ability to leverage one's major discipline with a solid understanding of one business area, increased analytical thinking, problem-solving ability, and an understanding of internal and external environments of service and business organizations.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

To be accepted into the Minor in OSCM and to progress into the upper-division of the College, a student must present a minimum 2.7 GPA overall and Junior standing.

### Minor Requirements
A Minor in Operations and Supply Chain Management requires a minimum 15 credit hours (five courses) for students who have taken the business prerequisites listed below. **Students may attempt each of these courses two times.**

**Prerequisite Courses (21 credit hours)**
ACCT 2121 - Principles of Accounting I (3)
ACCT 2122 - Principles of Accounting II (3)
ECON 2101 - Principles of Macroeconomics (3)
ECON 2102 - Principles of Microeconomics (3)
INFO 2130 - Introduction to Business Computing (3)*
MATH 1120 - Calculus (3)
STAT 1220 - Elements of Statistics I (3)

**Required Minor Courses (9 credit hours)**
MGMT 3140 - Management and Organizational Behavior (3)
OPER 3100 - Operations Management (3)
OPER 3208 - Supply Chain Management (3)

**Elective Minor Courses (6 credit hours)**
*Select two of the following courses, one of which must be an OPER course:*
INFO 3230 - Enterprise Systems (3)
INFO 3233 - Data and Information Management (3)
INFO 3236 - Business Analytics (3)
OPER 3201 - Operations Planning and Control (3)
OPER 3203 - Decision Modeling and Analysis (3)
OPER 3204 - Management of Service and Project Operations (3)
OPER 3206 - Quality Assurance and Management (3)

**All Computer Science and Software and Information Systems majors will be exempted from INFO 2130. Other students with sufficient background can apply for Credit by Exam for INFO 2130.*

### Total = 15 Credit Hours

### Progression Requirements
To obtain this minor, students must meet the University requirements of a GPA of at least 2.0 overall and in the courses for the minor. Students must earn a minimum grade of C in all required and elective minor courses and their prerequisite courses. When students repeat a course, both the old and new grades are included in the overall GPA. Courses repeated under the Grade Replacement Policy are excluded from the overall GPA computation. However, this repeated course does count as an attempt. Students must also meet the Belk College of Business residency requirements as described at the beginning of this section.

# Department of Economics

belkcollege.charlotte.edu/departments/economics

## Undergraduate Programs

- B.S. in Economics
  - Business
  - Liberal Arts
- Minor in Economics
- Early Entry: M.S. in Economics

The study of Economics offers students a problem-solving discipline to foster their intellectual and career development. It provides students with a balanced and broad educational background and prepares them to choose from a wide range of career alternatives.

The Economics program explores the economic decisions of individuals, businesses, governments, and other institutions. It examines the nature of economic activity, why it takes place, and how it affects everyone's lives. The program includes elective courses that enable students to tailor their educational program to meet personal needs and interests. The study of economics also helps students develop a way of thinking that is logical and rigorous. It provides decision-making tools that they can apply to personal as well as business decisions and use to address the many economic decisions they will face in the future.

The Department of Economics offers two programs leading to the Bachelor of Science degree. Students who plan to pursue careers in business-related fields such as banking, finance, and international commerce, or who plan to enter an MBA program, are encouraged to elect the Major in Economics with a Business Concentration. Students planning to pursue a career in education or the social sciences, enter graduate school in economics, or attend law school are encouraged to pursue the Major in Economics with a Liberal Arts Concentration.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

Please visit the program website for more information:
https://academics.charlotte.edu/program/economics-b-s-on-campus/

## Bachelor of Science in Economics *with Concentration in Business*

Please visit the program website for more information:
https://academics.charlotte.edu/program/economics-b-s-on-campus/

### Admission Requirements (Pre-Economics, Business Concentration

#### Freshmen

Freshman admission is competitive. Students who apply for this major and are accepted into the Belk College of Business are initially classified as Pre-Economics (PECO) majors. Students interested in pursuing a Major in Economics with Concentration in Business should seek admission to the Pre-Economics program to ensure appropriate advising and support. Students who complete the Progression Course Requirements listed below may declare an upper-division Major in Economics with Concentration in Business.

- See University Admission Requirements
- *Minimum GPA:* 2.7 overall
- *Pre-Major/Prerequisite/Progression Courses:*
  - ACCT 2121
  - ACCT 2122 or ACCT 3323
  - BUSN 1101
  - ECON 2101
  - ECON 2102
  - INFO 2130
  - MATH 1120, MATH 1121, MATH 1241, or MATH 1242
  - STAT 1220, STAT 1221, STAT 1222, or STAT 2122

  [A minimum grade of C is required for all Progression Courses. Once enrolled at UNC Charlotte, students may attempt each of the Progression Courses listed above a maximum of two times. An attempt is defined as a course that is completed with a final grade of A, B, C, D, or F. Courses repeated under the UNC Charlotte Grade Replacement Policy are excluded from the GPA computation, but will count as an attempt.]

#### Transfers

Transfer students interested in pursuing a Major in Economics with Concentration in Business should seek admission to the Pre-Economics program. Transfer admission requirements for the Pre-Economics major include the following:

- See University Admission Requirements
- *Minimum GPA:* 2.7 overall
- *Pre-Major/Prerequisite/Progression Courses:* See Progression Courses above. Minimum grade of C in Progression Courses completed.

#### Currently Enrolled Students

*Declaration of Major and/or Progression Course Requirements:*

- Junior standing (60 credit hours or more)
- Pre-Economics Requirements listed above
- Approved Change of Major form.
- Pre-Economics students should submit Change of Major forms to an Academic and Career Coach in the Belk College of Business Niblock Student Center.
- Students who fail to declare their upper-division major on time will be prohibited from declaring their upper-division major in the College if their GPA falls below a 2.7.

### Degree Requirements

The following courses are required. **Students may attempt each of these courses two times.**

#### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the

major with departmental approval. Please see your advisor for information.

**Business Core Courses (6 credit hours)**
*Select two of the following:*
BLAW 3150 - Business Law I (3)
INFO 3130 - Management Information Systems (3)
MGMT 3140 - Management and Organizational Behavior (3)
MKTG 3110 - Principles of Marketing (3)
OPER 3100 - Operations Management (3)

**Major Courses (24 credit hours)**
ECON 3112 - Econometrics (3)
ECON 3122 - Intermediate Microeconomics (3)
ECON 3123 - Intermediate Macroeconomics (3)
ECON 3125 - Managerial Economics (3)
ECON 4200 - Senior Seminar (3)
FINN 3120 - Financial Management (3)
COMM 3160 - Business Communications (3)

*Plus one of the following Quantitative Skills Courses:*
ECON 4100 - Economic Modeling (3)
ECON 4112 - Advanced Econometrics (3)
ECON 4117 - Business Forecasting & Analytics (3)
INFO 3236 - Business Analytics (3)

*Note: It is recommended that students who plan to pursue graduate work in economics complete MATH 1241, ECON 4100, and, as available, ECON 4112 and ECON 4117. Also, they should consider additional work in mathematics but should consult with an Academic Advisor concerning specific courses.*

**Restricted Elective Courses (9 credit hours)**
Select three ECON Electives from the 3000- or 4000-level, excluding the courses listed above.

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## High-Impact Experience
To obtain this degree, students must complete at least one high-impact experience (e.g., internship, study abroad, project-based learning, case competition (or similar experience) or undergraduate research). Students with current, relevant work experience may seek approval to use that experience to fulfill the high-impact experience degree requirement.

## Progression Requirements
Students who do not meet the Progression Course Requirements above are ineligible for continuation in the Belk College of Business.

To obtain this degree, students must meet the University requirements of a GPA of at least 2.0 overall and in the courses for the major. Students must earn a minimum grade of C in all required Progression, Core, and Major Courses. When students repeat a course, both the old and new grades are included in the overall GPA. Courses repeated under the Grade Replacement Policy are excluded from the overall GPA computation. However, this repeated course does count as an attempt. Students must also meet the Belk College of Business residency requirements as described at the beginning of this section.

# Bachelor of Science in Economics *with Concentration in Liberal Arts*

Please visit the program website for more information: https://academics.charlotte.edu/program/economics-b-s-on-campus/

## Admission Requirements (Pre-Economics, Liberal Arts Concentration

**Freshmen**
Freshman admission is competitive. Students who apply for this major and are accepted into the Belk College of Business are initially classified as Pre-Economics (PECO) majors. Students interested in pursuing a Major in Economics with Concentration in Liberal Arts should seek admission to the Pre-Economics program to ensure appropriate advising and support. Students who complete the Progression Course Requirements listed below may declare an upper-division Major in Economics with Concentration in Liberal Arts.

- See University Admission Requirements
- *Minimum GPA:* 2.7 overall
- *Pre-Major/Prerequisite/Progression Courses:*
  - WRDS 1103 or WRDS 1104
  - ECON 2101
  - ECON 2102
  - INFO 2130
  - MATH 1120, MATH 1121, MATH 1241, or MATH 1242
  - STAT 1220, STAT 1221, STAT 1222, or STAT 2122

  [A minimum grade of C is required for all Progression Courses. Once enrolled at UNC Charlotte, students may attempt each of the Progression Courses listed above a maximum of two times. An attempt is defined as a course that is completed with a final grade of A, B, C, D, or F. Courses repeated under the UNC Charlotte Grade Replacement Policy are excluded from the GPA computation, but will count as an attempt.]

### Transfers
Transfer students interested in pursuing a Major in Economics with Concentration in Liberal Arts should seek admission to the Pre-Economics program. Transfer admission requirements for the Pre-Economics major include the following:

- See University Admission Requirements
- *Minimum GPA:* 2.7 overall
- *Pre-Major/Prerequisite/Progression Courses*: See Progression Courses above. Minimum grade of C in Progression Courses completed.

### Currently Enrolled Students
*Declaration of Major and/or Progression Course Requirements:*
- Junior standing (60 credit hours or more)
- Pre-Economics Requirements listed above
- Approved Change of Major form.
- Pre-Economics students should submit Change of Major forms to an Academic and Career Coach in the Belk College of Business Niblock Student Center.
- Students who fail to declare their upper-division major on time will be prohibited from declaring their upper-division major in the College if their GPA falls below a 2.7.

## Degree Requirements
The following courses are required. **Students may attempt each of the courses two times.**

### General Education Courses (31-32 credit hours)
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

### Major Courses (15 credit hours)
ECON 3112 - Econometrics (3)
ECON 3122 - Intermediate Microeconomics (3)
ECON 3123 - Intermediate Macroeconomics (3)
ECON 4200 - Senior Seminar (3)
COMM 3160 - Business Communications (3)

### Restricted Elective Courses (12 credit hours)
Select four ECON Electives from the 3000- or 4000-level, excluding the courses listed above.

*Note: It is recommended that students who plan to pursue graduate work in economics complete MATH 1241, ECON 4100, and, as available, ECON 4112 and ECON 4117. Also, they should consider additional work in mathematics but should consult with an Academic Advisor concerning specific courses.*

### Concentration Courses (15+ credit hours)
Students must complete a non-business focus area for the Liberal Arts concentration. Credit hours vary depending on the option chosen. That focus area can be completed in one of three ways:

1) Completion of a minor offered outside the Belk College of Business. Credit hours vary dependent on the minor requirements.

2) Completion of a double major offered outside the Belk College of Business. Credit hours vary dependent on the major requirements.

3) Completion of a student-directed focus area. Completion of 15 credit hours of 3000-level or above courses offered outside the Belk College of Business.

### Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## High-Impact Experience
To obtain this degree, students must complete at least one high-impact experience (e.g., internship, study abroad, project-based learning, case competition (or similar experience) or undergraduate research). Students with current, relevant work experience may seek approval to use that experience to fulfill the high-impact experience degree requirement.

## Progression Requirements
Students who do not meet the Progression Course Requirements above are ineligible for continuation in the Belk College of Business.

To obtain this degree, students must meet the University requirements of a GPA of at least 2.0 overall and in the courses for the major. Students must earn a minimum grade of C in all required Progression, Core, and Major Courses. When students repeat a course, both the old and new grades are included in the overall GPA. Courses repeated under the Grade Replacement Policy are excluded from the overall GPA computation. However, this repeated course does count as an attempt. Students must also meet the Belk College of Business residency requirements as described at the beginning of this section.

# Minor in Economics

## Admission Requirements
### Current UNC Charlotte Undergraduate Students
To be accepted into the Minor in Economics and to progress into the upper-division of the College, students must meet the following requirements:

- See University Admission Requirements
- A minimum 2.7 cumulative GPA
- Junior or Senior standing
- A grade of C or above in all prerequisites to required courses in the minor, including:
  - ECON 2101 - Principles of Macroeconomics (3)
  - ECON 2102 - Principles of Microeconomics (3)

- MATH 1120 - Calculus (3)
  or MATH 1241 Calculus (3)
- STAT 1220 - Elements of Statistics I – BUSN (3)
- INFO 2130 - Introduction to Business Computing (3)*

**Required only for ECON 3112 and ECON 3125.*

### Minor Requirements

A Minor in Economics requires 18 credit hours of economics courses. ***Students may attempt each of the courses in the minor two times.***

**Required Courses (9 credit hours)**

ECON 2101 - Principles of Macroeconomics (3)
ECON 2102 - Principles of Microeconomics (3)
ECON 3122 - Intermediate Microeconomics (3)
or ECON 3125 - Managerial Economics (3)

**Elective Courses (9 credit hours)**

*Select three ECON elective courses from the following, excluding the courses listed above:*
ECON 3XXX-4XXX - Economics Elective (3)
ECON 3XXX-4XXX - Economics Elective (3)
ECON 3XXX-4XXX - Economics Elective (3)

### Total = 18 Credit Hours

### Progression Requirements

To obtain this minor, students must meet the University requirements of a GPA of at least 2.0 overall and in the courses for the minor. Students must earn a minimum grade of C in all required and elective minor courses and their prerequisite courses. When students repeat a course, both the old and new grades are included in the overall GPA. Courses repeated under the Grade Replacement Policy are excluded from the overall GPA computation. However, this repeated course does count as an attempt. Students must also meet the Belk College of Business residency requirements as described at the beginning of this section.

## Early Entry: Master of Science in Economics

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA and 3.2 GPA in the major
- Acceptable scores on the appropriate graduate standardized test (e.g., GRE)
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

### Progression Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

### Special Policies or Requirements

Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

## Accelerated Master's Program

### *(for High School Seniors and UNC Charlotte Undergraduate Freshmen)*

Academically talented high school seniors and UNC Charlotte undergraduate freshmen are encouraged to apply to an Accelerated Master's Program to begin work toward both undergraduate and graduate degrees in their Freshman year.

### Admission Requirements

- See University Admission Requirements
- Minimum high school GPA of 3.75 (on a 4.0 scale)
- Minimum score of 1220 on SAT

### Progression Requirements

Students must maintain a strong academic record at both the undergraduate and graduate levels with a cumulative undergraduate GPA of 3.2 or higher and a cumulative graduate GPA of 3.0 or higher. Students accepted into the Accelerated master's program are subject to the same policies that pertain to other matriculated graduate students.

### Special Policies or Requirements

Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on the Accelerated Master's Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/accelerated-masters.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# Department of Finance

belkcollege.charlotte.edu/departments/finance

## Undergraduate Programs

- **B.S.B.A. in Finance**
  - **Finance**
  - **Finance/Accounting**
  - **Real Estate**
  - **Risk Management and Insurance**
- **Early Entry: M.S. in Financial Engineering and Fin Tech**

The Department of Finance prepares students for financial leadership within organizations and provides them with an understanding of the legal environment in which these organizations operate. In the Department's various programs, students acquire knowledge that enables them to understand:

a) The concepts, processes, and institutions involved in planning for, acquiring and allocating capital with respect to modern business organizations
b) The economic and legal environment of organizations, and the myriad social and political influences on business
c) The concepts and methods of economics, accounting, mathematics, management, information systems, and business law

Students pursuing the Bachelor of Science in Business Administration (B.S.B.A.) degree with a Major in Finance must select one of four concentrations: Finance, Finance and Accounting, Real Estate, or Risk Management and Insurance.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

## Bachelor of Science in Business Administration: Finance *with Concentration in Finance*

Students who plan to pursue careers in business-related fields such as banking, finance, and international commerce, or who plan to enter an MBA program, are encouraged to elect the BSBA in Finance with a Concentration in Finance.

Please visit the program website for more information: https://academics.charlotte.edu/program/finance-b-s-b-a-on-campus/

### Admission Requirements (Pre-Business)

**Freshmen**

Freshman admission is competitive. Students who apply for this major and are accepted into the Belk College of Business are initially classified as Pre-Business (PBUS) majors. Students interested in pursuing a Major in Business Analytics, Finance, International Business, Management, Management Information Systems, Marketing, or Operations and Supply Chain Management should seek admission to the Pre-Business program to ensure appropriate advising and support. Students who complete the Progression Course Requirements listed below may declare an upper-division Major in Business Analytics, Finance, International Business, Management, Management Information Systems, Marketing, or Operations and Supply Chain Management.

- See University Admission Requirements
- *Minimum GPA:* 2.7 overall
- *Pre-Major/Prerequisite/Progression Courses:*
  - ACCT 2121
  - ACCT 2122 or ACCT 3323
  - BUSN 1101
  - ECON 2101
  - ECON 2102
  - INFO 2130
  - MATH 1120, MATH 1121, MATH 1241, or MATH 1242
  - STAT 1220, STAT 1221, STAT 1222, or STAT 2122

  [A minimum grade of C is required for all Progression Courses. Once enrolled at UNC Charlotte, students may attempt each of the Progression Courses listed above a maximum of two times. An attempt is defined as a course that is completed with a final grade of A, B, C, D, or F. Courses repeated under the UNC Charlotte Grade Replacement Policy are excluded from the GPA computation, but will count as an attempt.]

**Transfers**

Transfer students interested in pursuing a Major in Business Analytics, Finance, International Business, Management, Management Information Systems, Marketing, or Operations and Supply Chain Management should seek admission to the Pre-Business program. Transfer admission requirements for the Pre-Business major include the following:

- See University Admission Requirements
- *Minimum GPA:* 2.7 overall
- *Pre-Major/Prerequisite/Progression Courses:* See Progression Courses above. Minimum grade of C in Progression Courses completed.

**Currently Enrolled Students**

*Declaration of Major and/or Progression Course Requirements:*

- Junior standing (60 credit hours or more)
- Pre-Business Requirements listed above
- Approved Change of Major form

- Pre-Business students should submit Change of Major forms to an Academic and Career Coach in the Belk College of Business Niblock Student Center.
- Students who fail to declare their upper-division major on time will be prohibited from declaring their upper-division major in the College if their GPA falls below a 2.7.

## Degree Requirements

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

The following courses are required for a B.S.B.A. degree in Finance with a Concentration in Finance. **Students may attempt each of these courses two times.**

**Business Core Courses (27 credit hours)**
BLAW 3150 - Business Law I (3)
COMM 3160 - Business Communications (3)
ECON 3125 - Managerial Economics (3)
FINN 3120 - Financial Management (3)
INFO 3130 - Management Information Systems (3)
MGMT 3140 - Management and Organizational Behavior (3)
MGMT 3280 - Strategic Management (3)
MKTG 3110 - Principles of Marketing (3)
OPER 3100 - Operations Management (3)

**Major Courses (9 credit hours)**
FINN 3222 - Investments (3)
FINN 3226 - Financial Theory and Practice (3)
ACCT 3311 - Intermediate Financial Accounting I (3)
or ACCT 3323 - Intermediate Accounting I (3)

**Restricted Elective Courses (9 credit hours)**
*Select two to three of the following:*
BLAW 3250 - Business Law II (3)
ECON 3112 - Econometrics (3)
ECON 3115 - Money and Banking (3)
FINN 3221 - Financial Institutions and Markets (3)
FINN 3223 - International Financial Management (3)
FINN 3224 - Applied Business Finance (3)
FINN 3225 - Commercial Bank Management (3)
FINN 3255 - Real Estate Principles (3)
FINN 3261 - Real Estate Finance (3)
FINN 3271 - Principles of Risk Management and Insurance (3)
FINN 3272 - Life Insurance and Professional Financial Planning (3)
FINN 3273 – Property and Liability Insurance Operations (3)
FINN 3278 - Risk Management and Insurance Sales and Negotiations (3)
FINN 3279 - Advanced Topics in Risk Management (3)
FINN 4159 - Student Managed Investment Fund II (3)
FINN 4160 - Equity Analysis (3)
FINN 4161 - Financial Modeling (3)
FINN 4275 – Enterprise Risk Management (3)
INFO 3236 - Business Analytics (3)
OPER 3204 - Management of Service and Project Operations (3)

*Select one of the following if only two courses selected above:*
FINN 3400 - Finance Internship (3)
FINN 3800 - Directed Study (3) *(Chair approval required)*

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements

Students who do not meet the Progression Course Requirements above are ineligible for continuation in the Belk College of Business.

To obtain this degree, students must meet the University requirements of a GPA of at least 2.0 overall and in the courses for the major. Students must earn a minimum grade of C in all required Progression, Core, and Major Courses. When students repeat a course, both the old and new grades are included in the overall GPA. Courses repeated under the Grade Replacement Policy are excluded from the overall GPA computation. However, this repeated course does count as an attempt. Students must also meet the Belk College of Business residency requirements as described at the beginning of this section.

# Bachelor of Science in Business Administration: Finance *with Joint Concentration in Finance/ Accounting*

Please visit the program website for more information:
https://academics.charlotte.edu/program/finance-b-s-b-a-on-campus/

## Admission Requirements (Pre-Business)

**Freshmen**
Freshman admission is competitive. Students who apply for this major and are accepted into the Belk College of Business are initially classified as Pre-Business (PBUS) majors. Students interested in pursuing a Major in Business Analytics, Finance, International Business, Management, Management Information Systems, Marketing, or Operations and Supply Chain Management should seek admission to the Pre-Business program to ensure appropriate advising and support. Students who complete the Progression Course Requirements listed below may declare an upper-division Major in Business Analytics, Finance, International Business, Management, Management Information Systems, Marketing, or Operations and Supply Chain Management.

- See University Admission Requirements
- *Minimum GPA:* 2.7 overall
- *Pre-Major/Prerequisite/Progression Courses:*
  - ACCT 2121
  - ACCT 2122 or ACCT 3323
  - BUSN 1101
  - ECON 2101

- ECON 2102
- INFO 2130
- MATH 1120, MATH 1121, MATH 1241, or MATH 1242
- STAT 1220, STAT 1221, STAT 1222, or STAT 2122

[A minimum grade of C is required for all Progression Courses. Once enrolled at UNC Charlotte, students may attempt each of the Progression Courses listed above a maximum of two times. An attempt is defined as a course that is completed with a final grade of A, B, C, D, or F. Courses repeated under the UNC Charlotte Grade Replacement Policy are excluded from the GPA computation, but will count as an attempt.]

### Transfers

Transfer students interested in pursuing a Major in Business Analytics, Finance, International Business, Management, Management Information Systems, Marketing, or Operations and Supply Chain Management should seek admission to the Pre-Business program. Transfer admission requirements for the Pre-Business major include the following:

- See University Admission Requirements
- *Minimum GPA:* 2.7 overall
- *Pre-Major/Prerequisite/Progression Courses:* See Progression Courses above. Minimum grade of C in Progression Courses completed.

### Currently Enrolled Students

- *Declaration of Major and/or Progression Course Requirements:* Junior standing (60 credit hours or more); Pre-Business Requirements listed above; and approved Change of Major form. Pre-Business students should submit Change of Major forms to an Academic and Career Coach in the Belk College of Business Niblock Student Center. Students who fail to declare their upper-division major on time will be prohibited from declaring their upper-division major in the College if their GPA falls below a 2.7.

## Degree Requirements

### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

The following courses are required for a B.S.B.A. degree in Finance with a joint Finance/Accounting Concentration. **Students may attempt each of these courses two times.**

### Business Core Courses (27 credit hours)

BLAW 3150 - Business Law I (3)
COMM 3160 - Business Communications (3)
ECON 3125 - Managerial Economics (3)
FINN 3120 - Financial Management (3)
INFO 3130 - Management Information Systems (3)
MGMT 3140 - Management and Organizational Behavior (3)
MGMT 3280 - Strategic Management (3)
MKTG 3110 - Principles of Marketing (3)
OPER 3100 - Operations Management (3)

### Major Courses (12 credit hours)

FINN 3222 - Investments (3)
FINN 3226 - Financial Theory and Practice (3)
ACCT 3311 - Intermediate Financial Accounting I (3)
or ACCT 3323 - Intermediate Accounting I (3)
ACCT 3312 - Intermediate Financial Accounting II (3)
or ACCT 3324 - Intermediate Accounting II (3)

### Restricted Elective Courses (6 credit hours)

*Select one to two of the following:*
ACCT 3325 - Intermediate Accounting III (3)
ACCT 3330 - Managerial Accounting and the Decision Process (3)
ACCT 3350 - Internal Auditing (3)
ACCT 3380 - Fraud Examination (3)
ACCT 4220 - Income Tax (3)
BLAW 3250 - Business Law II (3)
ECON 3112 - Econometrics (3)
FINN 3221 - Financial Institutions and Markets (3)
FINN 3223 - International Financial Management (3)
FINN 3224 - Applied Business Finance (3)
FINN 3225 - Commercial Bank Management (3)
FINN 3278 - Risk Management and Insurance Sales and Negotiations (3)
FINN 3279 - Advanced Topics in Risk Management (3)
FINN 4160 - Equity Analysis (3)
FINN 4161 - Financial Modeling (3)

*Select one of the following if only one course selected above:*
FINN 3400 - Finance Internship (3)
FINN 3800 - Directed Study (3) *(Department Chair approval required)*

### Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements

Students who do not meet the Progression Course Requirements above are ineligible for continuation in the Belk College of Business.

To obtain this degree, students must meet the University requirements of a GPA of at least 2.0 overall and in the courses for the major. Students must earn a minimum grade of C in all required Progression, Core, and Major Courses. When students repeat a course, both the old and new grades are included in the overall GPA. Courses repeated under the Grade Replacement Policy are excluded from the overall GPA computation. However, this repeated course does count as an attempt. Students must also meet the Belk College of Business residency requirements as described at the beginning of this section.

# Bachelor of Science in Business Administration: Finance *with Concentration in Real Estate*

The B.S.B.A. in Finance with Concentration in Real Estate provides students with fundamental knowledge and skills to analyze and negotiate commercial real estate. The curriculum incorporates concepts such as architecture, economics, finance, and geography to highlight the collaborative nature of the real estate industry. Students will find careers in property management, asset management, urban planning, and land development, as well as related areas such as finance, and investments. The Belk College of Business faculty members incorporate theory and real world application to allow students to address trends and issues within the industry.

Please visit the program website for more information:
https://academics.charlotte.edu/program/finance-b-s-b-a-on-campus/

## Admission Requirements (Pre-Business)

### Freshmen

Freshmen admission is competitive. Students who apply for this major and are accepted into the Belk College of Business are classified as Pre-Business (PBUS) majors. Students interested in pursuing a major in Business Analytics, Finance, International Business, Management, Management Information Systems, Marketing, or Operations and Supply Chain Management should seek admission to the Pre-Business program to ensure appropriate advising and support. Students who complete the Progression Course Requirements listed below may declare an upper-division major in Business Analytics, Finance, International Business, Management, Management Information Systems, Marketing, Operations and Supply Chain Management.

- See University Admission Requirements
- *Minimum GPA:* 2.7 overall
- *Pre-Major/Prerequisite/Progression Courses:*
  - ACCT 2121
  - ACCT 2122 or ACCT 3323
  - BUSN 1101
  - ECON 2101
  - ECON 2102
  - INFO 2130
  - MATH 1120, MATH 1121, MATH 1241, or MATH 1242
  - STAT 1220, STAT 1221, STAT 1222, or STAT 2122

    [A minimum grade of C is required for all Progression Courses. Once enrolled at UNC Charlotte, students may attempt each of the Progression Courses listed above a maximum of two times. An attempt is defined as a course that is completed with a final grade of A, B, C, D, or F. Courses repeated under the UNC Charlotte Grade Replacement Policy are excluded from the GPA computation, but will count as an attempt.]

### Transfers

Transfer students interested in pursuing a Major in Business Analytics, Finance, International Business, Management, Management Information Systems, Marketing, or Operations and Supply Chain Management should seek admission to the Pre-Business program. Transfer admission requirements for the Pre-Business major include the following:

- See University Admission Requirements
- *Minimum GPA:* 2.7 overall
- *Pre-Major/Prerequisite/Progression Courses:* See Progression Courses above. Minimum grade of C in Progression Courses completed.

### Currently Enrolled Students

*Declaration of Major and/or Progression Course Requirements:*

- Junior standing (60 credit hours or more)
- Pre-Business Requirements listed above
- Approved Change of Major form
- Pre-Business students should submit Change of Major forms to an Academic and Career Coach in the Belk College of Business Niblock Student Center.
- Students who fail to declare their upper-division major on time will be prohibited from declaring their upper-division major in the College if their GPA falls below a 2.7.

## Degree Requirements

### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

The following courses are required for a B.S.B.A. degree in Finance with a Concentration in Real Estate. **Students may attempt each of these courses two times.**

### Business Core Courses (27 credit hours)

BLAW 3150 - Business Law I (3)
COMM 3160 - Business Communications (3)
ECON 3125 - Managerial Economics (3)
FINN 3120 - Financial Management (3)
INFO 3130 - Management Information Systems (3)
MGMT 3140 - Management and Organizational Behavior (3)
MGMT 3280 - Strategic Management (3)
MKTG 3110 - Principles of Marketing (3)
OPER 3100 - Operations Management (3)

### Major Courses (15 credit hours)

FINN 3222 - Investments (3)
FINN 3226 - Financial Theory and Practice (3)
FINN 3255 - Real Estate Principles (3)
FINN 3261 - Real Estate Finance (3)
FINN 3265 - Asset and Property Management (3)

### Restricted Elective Course (3 credit hours)

*Select one of the following:*
ACCT 3311 - Intermediate Financial Accounting I (3)
ACCT 3323 - Intermediate Accounting I (3)
BLAW 3250 - Business Law II (3)
ECON 3112 - Econometrics (3)
ECON 3115 - Money and Banking (3)
FINN 3221 - Financial Institutions and Markets (3)
FINN 3223 - International Financial Management (3)
FINN 3224 - Applied Business Finance (3)

FINN 3225 - Commercial Bank Management (3)
FINN 3271 - Principles of Risk Management and Insurance (3)
FINN 3272 - Life Insurance and Professional Financial Planning (3)
FINN 3273 – Property and Liability Insurance Operations (3)
FINN 3278 - Risk Management and Insurance Sales and Negotiations (3)
FINN 3279 - Advanced Topics in Risk Management (3)
FINN 3400 - Finance Internship (3)
FINN 3800 - Directed Study (1 to 3) *(department chair approval required)*
FINN 4159 - Student Managed Investment Fund II (3)
FINN 4160 - Equity Analysis (3)
FINN 4161 - Financial Modeling (3)
FINN 4275 – Enterprise Risk Management (3)
OPER 3204 - Management of Service and Project Operations (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

### Progression Requirements
Students who do not meet the Progression Course Requirements above are ineligible for continuation in the Belk College of Business.

To obtain this degree, students must meet the University requirements of a GPA of at least 2.0 overall and in the courses for the major. Students must earn a minimum grade of C in all required Progression, Core, and Major Courses. When students repeat a course, both the old and new grades are included in the overall GPA. Courses repeated under the Grade Replacement Policy are excluded from the overall GPA computation. However, this repeated course does count as an attempt. Students must also meet the Belk College of Business residency requirements as described at the beginning of this section.

## Bachelor of Science in Business Administration: Finance *with Concentration in Risk Management and Insurance*

Please visit the program website for more information: https://academics.charlotte.edu/program/finance-b-s-b-a-on-campus/

### Admission Requirements (Pre-Business)
**Freshmen**
Freshman admission is competitive. Students who apply for this major and are accepted into the Belk College of Business are initially classified as Pre-Business (PBUS) majors. Students interested in pursuing a Major in Business Analytics, Finance, International Business, Management, Management Information Systems, Marketing, or Operations and Supply Chain Management should seek admission to the Pre-Business program to ensure appropriate advising and support. Students who complete the Progression Course Requirements listed below may declare an upper-division Major in Business Analytics, Finance, International Business, Management, Management Information Systems, Marketing, or Operations and Supply Chain Management.

- See University Admission Requirements
- *Minimum GPA:* 2.7 overall
- *Pre-Major/Prerequisite/Progression Courses:*
  - ACCT 2121
  - ACCT 2122 or ACCT 3323
  - BUSN 1101
  - ECON 2101
  - ECON 2102
  - INFO 2130
  - MATH 1120, MATH 1121, MATH 1241, or MATH 1242
  - STAT 1220, STAT 1221, STAT 1222, or STAT 2122

  [A minimum grade of C is required for all Progression Courses. Once enrolled at UNC Charlotte, students may attempt each of the Progression Courses listed above a maximum of two times. An attempt is defined as a course that is completed with a final grade of A, B, C, D, or F. Courses repeated under the UNC Charlotte Grade Replacement Policy are excluded from the GPA computation, but will count as an attempt.]

**Transfers**
Transfer students interested in pursuing a Major in Business Analytics, Finance, International Business, Management, Management Information Systems, Marketing, or Operations and Supply Chain Management should seek admission to the Pre-Business program. Transfer admission requirements for the Pre-Business major include the following:

- See University Admission Requirements
- *Minimum GPA:* 2.7 overall
- *Pre-Major/Prerequisite/Progression Courses:* See Progression Courses above. Minimum grade of C in Progression Courses completed.

**Currently Enrolled Students**
- *Declaration of Major and/or Progression Course Requirements:* Junior standing (60 credit hours or more); Pre-Business Requirements listed above; and approved Change of Major form. Pre-Business students should submit Change of Major forms to an Academic and Career Coach in the Belk College of Business Niblock Student Center. Students who fail to declare their upper-division major on time will be prohibited from declaring their upper-division major in the College if their GPA falls below a 2.7.

### Degree Requirements
**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

The following courses are required for a B.S.B.A. degree in Finance with a Risk Management and Insurance Concentration. **Students may attempt each of these courses two times.**

**Business Core Courses (27 credit hours)**
BLAW 3150 - Business Law I (3)
COMM 3160 - Business Communications (3)
ECON 3125 - Managerial Economics (3)
FINN 3120 - Financial Management (3)
INFO 3130 - Management Information Systems (3)
MGMT 3140 - Management and Organizational Behavior (3)
MGMT 3280 - Strategic Management (3)
MKTG 3110 - Principles of Marketing (3)
OPER 3100 - Operations Management (3)

**Major Courses (12 credit hours)**
FINN 3271 - Principles of Risk Management and Insurance (3)
FINN 3272 - Life Insurance and Professional Financial Planning (3)
FINN 3273 - Property and Liability Insurance Operations (3)
FINN 4275 - Enterprise Risk Management (3)

**Restricted Elective Courses (6 credit hours)**
*Select two of the following:*
ACCT 3323 - Intermediate Accounting I (3)
FINN 3222 - Investments (3)
FINN 3276 - Employee Benefits (3)
FINN 3278 - Risk Management and Insurance Sales and Negotiations (3)
FINN 3279 - Advanced Topics in Risk Management (3)
FINN 3400 - Finance Internship (3)
FINN 3800 - Directed Study (1 to 3) *(Department Chair approval required)*
FINN 4160 - Equity Analysis (3)
MGMT 3277 - Entrepreneurship (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements
Students who do not meet the Progression Course Requirements above are ineligible for continuation in the Belk College of Business.

To obtain this degree, students must meet the University requirements of a GPA of at least 2.0 overall and in the courses for the major. Students must earn a minimum grade of C in all required Progression, Core, and Major Courses. When students repeat a course, both the old and new grades are included in the overall GPA. Courses repeated under the Grade Replacement Policy are excluded from the overall GPA computation. However, this repeated course does count as an attempt. Students must also meet the Belk College of Business residency requirements as described at the beginning of this section.

# Early Entry: Master of Science in Financial Engineering and Fin Tech
Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

## Admission Requirements
**Current UNC Charlotte Undergraduate Students**
- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA and 3.2 GPA in the major
- Acceptable scores on the appropriate graduate standardized test (e.g., GRE)
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

## Progression Requirements
- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

## Special Policies or Requirements
Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# Accelerated Master's Program
## *(for High School Seniors and UNC Charlotte Undergraduate Freshmen)*
Academically talented high school seniors and UNC Charlotte undergraduate freshmen are encouraged to apply to an Accelerated Master's Program to begin work toward both undergraduate and graduate degrees in their Freshman year.

## Admission Requirements
- See University Admission Requirements
- Minimum high school GPA of 3.75 (on a 4.0 scale)
- Minimum score of 1220 on SAT

## Progression Requirements

Students must maintain a strong academic record at both the undergraduate and graduate levels with a cumulative undergraduate GPA of 3.2 or higher and a cumulative graduate GPA of 3.0 or higher. Students accepted into the Accelerated master's program are subject to the same policies that pertain to other matriculated graduate students.

## Special Policies or Requirements

Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on the Accelerated Master's Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/accelerated-masters.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# Department of Management

belkcollege.charlotte.edu/departments/management

## Undergraduate Programs

- B.S.B.A. in Management
  - Human Resources Management
  - Organizational Management
- B.S.B.A. in International Business
- Minor in International Management
- Undergraduate Certificate in Entrepreneurship

A program of study in the Department of Management leads to a Bachelor of Science in Business Administration (B.S.B.A.) degree with a Major in Management, a B.S.B.A. degree with a Major in International Business, or a Minor in International Management.

The Major in Management is designed to teach students to plan, organize, lead, and control business activities in both the public and private sectors. Students develop skills in decision making, leadership, motivation, problem solving, and teamwork.

Students pursuing the Management major must select one of two concentrations: Human Resource Management or Organizational Management. The former concentration is designed for students interested in "the management of human resources or talent," and the latter concentration is designed for students interested in "general or strategic management."

Courses in this major include the following topics: management and organizational behavior, managerial ethics, decision-making techniques, managing human resources and developing communication skills that make for effective leadership. The objectives of the major are to provide each student with conceptual tools and develop managerial skills that support leadership in a variety of organizations.

Global citizenship is a core value of the Belk College of Business. Because business success requires a global perspective, the Department of Management also offers the B.S.B.A. degree with a Major in International Business and a Minor in International Management.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

# Bachelor of Science in Business Administration: Management *with Concentration in Human Resource Management*

Please visit the program website for more information: https://academics.charlotte.edu/program/management-b-s-b-a-on-campus/

## Admission Requirements (Pre-Business)

### Freshmen

Freshman admission is competitive. Students who apply for this major and are accepted into the Belk College of Business are initially classified as Pre-Business (PBUS) majors. Students interested in pursuing a Major in Business Analytics, Finance, International Business, Management, Management Information Systems, Marketing, or Operations and Supply Chain Management should seek admission to the Pre-Business program to ensure appropriate advising and support. Students who complete the Progression Course Requirements listed below may declare an upper-division Major in Business Analytics, Finance, International Business, Management, Management Information Systems, Marketing, or Operations and Supply Chain Management.

- See University Admission Requirements
- *Minimum GPA:* 2.7 overall
- *Pre-Major/Prerequisite/Progression Courses:*
  - ACCT 2121
  - ACCT 2122 or ACCT 3323
  - BUSN 1101
  - ECON 2101
  - ECON 2102
  - INFO 2130
  - MATH 1120, MATH 1121, MATH 1241, or MATH 1242
  - STAT 1220, STAT 1221, STAT 1222, or STAT 2122

  [A minimum grade of C is required for all Progression Courses. Once enrolled at UNC Charlotte, students may attempt each of the Progression Courses listed above a maximum of two times. An attempt is defined as a course that is completed with a final grade of A, B, C, D, or F. Courses repeated under the UNC Charlotte Grade Replacement Policy are excluded from the GPA computation, but will count as an attempt.]

### Transfers

Transfer students interested in pursuing a Major in Business Analytics, Finance, International Business, Management, Management Information Systems, Marketing, or Operations and Supply Chain Management should seek admission to the Pre-Business program. Transfer admission requirements for the Pre-Business major include the following:

- See University Admission Requirements
- *Minimum GPA:* 2.7 overall
- *Pre-Major/Prerequisite/Progression Courses:* See Progression Courses above. Minimum grade of C in Progression Courses completed.

### Currently Enrolled Students

*Declaration of Major and/or Progression Course Requirements:*

- Junior standing (60 credit hours or more)
- Pre-Business Requirements listed above
- Approved Change of Major form
- Pre-Business students should submit Change of Major forms to an Academic and Career Coach in the Belk College of Business Niblock Student Center.
- Students who fail to declare their upper-division major on time will be prohibited from declaring their upper-division major in the College if their GPA falls below a 2.7.

## Degree Requirements

### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

### Business Core Courses (27 credit hours)

BLAW 3150 - Business Law I (3)
COMM 3160 - Business Communications (3)
ECON 3125 - Managerial Economics (3)
FINN 3120 - Financial Management (3)
INFO 3130 - Management Information Systems (3)
MGMT 3140 - Management and Organizational Behavior (3)
MGMT 3280 - Strategic Management (3)
MKTG 3110 - Principles of Marketing (3)
OPER 3100 - Operations Management (3)

### Major Courses (6 credit hours)

MGMT 3282 - Managerial Ethics (3)
MGMT 3287 - Managerial Leadership (3)

### Major Human Resource Management Courses (9 credit hours)

MGMT 3241 - Acquiring and Maintaining Human Resources (3)
MGMT 3242 - Developing and Retaining Human Resources (3)
MGMT 3243 - Employment Law (3)

### Restricted Elective Courses (3 credit hours)

*Select one of the following:*
ECON 4106 - Labor Economics (3)
FINN 3276 - Employee Benefits (3)
MGMT 3000 - Topics in Management (3)
MGMT 3260 - Managerial Communication (3)
MGMT 3274 - International Business Processes and Problems (3)
MGMT 3275 - International Business Management (3)
MGMT 3277 - Entrepreneurship (3)
MGMT 3400 - Management Internship (3)
MGMT 3800 - Directed Study (3) *(Department Chair approval required)*
MGMT 4300 - Entrepreneurial Decisions (3)

### Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements

Students who do not meet the Progression Course Requirements above are ineligible for continuation in the Belk College of Business.

To obtain this degree, students must meet the University requirements of a GPA of at least 2.0 overall and in the courses for the major. Students must earn a minimum grade of C in all required Progression, Core, and Major Courses. When students repeat a course, both the old and new grades are included in the overall GPA. Courses repeated under the Grade Replacement Policy are excluded from the overall GPA computation. However, this repeated course does count as an attempt. Students must also meet the Belk College of Business residency requirements as described at the beginning of this section.

# Bachelor of Science in Business Administration: Management *with Concentration in Organizational Management*

Please visit the program website for more information:
https://academics.charlotte.edu/program/management-b-s-b-a-on-campus/

## Admission Requirements (Pre-Business)

### Freshmen

Freshman admission is competitive. Students who apply for this major and are accepted into the Belk College of Business are initially classified as Pre-Business (PBUS) majors. Students interested in pursuing a Major in Business Analytics, Finance, International Business, Management, Management Information Systems, Marketing, or Operations and Supply Chain Management should seek admission to the Pre-Business program to ensure appropriate advising and support. Students who complete the Progression Course Requirements listed below may declare an upper-division Major in Business Analytics, Finance, International Business, Management, Management Information Systems, Marketing, or Operations and Supply Chain Management.

- See University Admission Requirements
- *Minimum GPA:* 2.7 overall
- *Pre-Major/Prerequisite/Progression Courses:*
  - ACCT 2121
  - ACCT 2122 or ACCT 3323
  - BUSN 1101
  - ECON 2101
  - ECON 2102
  - INFO 2130
  - MATH 1120, MATH 1121, MATH 1241, or MATH 1242
  - STAT 1220, STAT 1221, STAT 1222, or STAT 2122

  [A minimum grade of C is required for all Progression Courses. Once enrolled at UNC Charlotte, students may attempt each of the Progression Courses listed above a maximum of two times. An attempt is defined as a course that is completed with a final grade of A, B, C, D, or F. Courses repeated under the UNC Charlotte Grade Replacement Policy are excluded from the GPA computation, but will count as an attempt.]

### Transfers

Transfer students interested in pursuing a Major in Business Analytics, Finance, International Business, Management, Management Information Systems, Marketing, or Operations and Supply Chain Management should seek admission to the Pre-Business program. Transfer admission requirements for the Pre-Business major include the following:

- See University Admission Requirements
- *Minimum GPA:* 2.7 overall
- *Pre-Major/Prerequisite/Progression Courses:* See Progression Courses above. Minimum grade of C in Progression Courses completed.

### Currently Enrolled Students

*Declaration of Major and/or Progression Course Requirements:*

- Junior standing (60 credit hours or more)
- Pre-Business Requirements listed above
- Approved Change of Major form
- Pre-Business students should submit Change of Major forms to an Academic and Career Coach in the Belk College of Business Niblock Student Center.
- Students who fail to declare their upper-division major on time will be prohibited from declaring their upper-division major in the College if their GPA falls below a 2.7.

## Degree Requirements

### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

### Business Core Courses (27 credit hours)

BLAW 3150 - Business Law I (3)
COMM 3160 - Business Communications (3)
ECON 3125 - Managerial Economics (3)
FINN 3120 - Financial Management (3)
INFO 3130 - Management Information Systems (3)
MGMT 3140 - Management and Organizational Behavior (3)
MGMT 3280 - Strategic Management (3)
MKTG 3110 - Principles of Marketing (3)
OPER 3100 - Operations Management (3)

### Major Courses (6 credit hours)

MGMT 3282 - Managerial Ethics (3)
MGMT 3287 - Managerial Leadership (3)

### Organizational Management Courses (9 credit hours)

MGMT 3260 - Managerial Communication (3)
MGMT 3275 - International Business Management (3)
MGMT 3277 - Entrepreneurship (3)
or MGMT 4300 - Entrepreneurial Decisions (3)

### Restricted Elective Courses (3 credit hours)

*Select one of the following:*
ECON 4106 - Labor Economics (3)
FINN 3276 - Employee Benefits (3)
MGMT 3000 - Topics in Management (3)
MGMT 3241 - Acquiring and Maintaining Human Resources (3)

MGMT 3242 - Developing and Retaining Human Resources (3)
MGMT 3243 - Employment Law (3)
MGMT 3274 - International Business Processes and Problems (3)
MGMT 3400 Management Internship (3)
MGMT 3800 - Directed Study -(3) *(Department Chair approval required)*

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

### Progression Requirements
Students who do not meet the Progression Course Requirements above are ineligible for continuation in the Belk College of Business.

To obtain this degree, students must meet the University requirements of a GPA of at least 2.0 overall and in the courses for the major. Students must earn a minimum grade of C in all required Progression, Core, and Major Courses. When students repeat a course, both the old and new grades are included in the overall GPA. Courses repeated under the Grade Replacement Policy are excluded from the overall GPA computation. However, this repeated course does count as an attempt. Students must also meet the Belk College of Business residency requirements as described at the beginning of this section.

## Bachelor of Science in Business Administration: International Business
The primary objective of the International Business major is to provide an understanding of the importance of a global perspective on the part of business managers. The major provides an integrated framework for the study of the market environment in which international business firms operate and the impact of those environments upon managerial decision making. Possible careers may result in a variety of business and government sectors—either domestically or abroad.

Please visit the program website for more information:
https://academics.charlotte.edu/program/international-business-b-s-b-a-on-campus/

### Admission Requirements (Pre-Business)
**Freshmen**
Freshman admission is competitive. Students who apply for this major and are accepted into the Belk College of Business are initially classified as Pre-Business (PBUS) majors. Students interested in pursuing a Major in Business Analytics, Finance, International Business, Management, Management Information Systems, Marketing, or Operations and Supply Chain Management should seek admission to the Pre-Business program to ensure appropriate advising and support. Students who complete the Progression Course Requirements listed below may declare an upper-division Major in Business Analytics, Finance, International Business, Management, Management Information Systems, Marketing, or Operations and Supply Chain Management.

- See University Admission Requirements
- *Minimum GPA:* 2.7 overall
- *Pre-Major/Prerequisite/Progression Courses:*
  - ACCT 2121
  - ACCT 2122 or ACCT 3323
  - BUSN 1101
  - ECON 2101
  - ECON 2102
  - INFO 2130
  - MATH 1120, MATH 1121, MATH 1241, or MATH 1242
  - STAT 1220, STAT 1221, STAT 1222, or STAT 2122
    [A minimum grade of C is required for all Progression Courses. Once enrolled at UNC Charlotte, students may attempt each of the Progression Courses listed above a maximum of two times. An attempt is defined as a course that is completed with a final grade of A, B, C, D, or F. Courses repeated under the UNC Charlotte Grade Replacement Policy are excluded from the GPA computation, but will count as an attempt.]

**Transfers**
Transfer students interested in pursuing a Major in Business Analytics, Finance, International Business, Management, Management Information Systems, Marketing, or Operations and Supply Chain Management should seek admission to the Pre-Business program. Transfer admission requirements for the Pre-Business major include the following:

- See University Admission Requirements
- *Minimum GPA:* 2.7 overall
- *Pre-Major/Prerequisite/Progression Courses:* See Progression Courses above. Minimum grade of C in Progression Courses completed.

**Currently Enrolled Students**
*Declaration of Major and/or Progression Course Requirements:*
- Junior standing (60 credit hours or more)
- Pre-Business Requirements listed above
- Approved Change of Major form
- Pre-Business students should submit Change of Major forms to an Academic and Career Coach in the Belk College of Business Niblock Student Center.
- Students who fail to declare their upper-division major on time will be prohibited from declaring their upper-division major in the College if their GPA falls below a 2.7.

### Degree Requirements
The following courses are required. **Students may attempt each of these courses two times.** International Business majors are also required to study abroad.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Foreign Language Courses (0-12 credit hours)**

Students must attain competency in a second language. This can be fulfilled two ways:

1) Complete at least four semesters of coursework in a foreign language (1201 - 2202).
2) Demonstrate proficiency in a foreign language at the 2202-level through a test administered by the Department of Languages and Culture Studies. Students are strongly encouraged to enhance their language skills by earning either a Certificate in Business Language (CBL) or a minor in their language of study.

**Business Core Courses (27 credit hours)**
BLAW 3150 - Business Law I (3)
COMM 3160 - Business Communications (3)
ECON 3125 - Managerial Economics (3)
FINN 3120 - Financial Management (3)
INFO 3130 - Management Information Systems (3)
MGMT 3140 - Management and Organizational Behavior (3)
MGMT 3280 - Strategic Management (3)
MKTG 3110 - Principles of Marketing (3)
OPER 3100 - Operations Management (3)

**Major Courses (9 credit hours)**
ECON 3171 - International Business Economics (3)
FINN 3223 - International Financial Management (3)
MGMT 3275 - International Business Management (3)

**Restricted Elective Courses (3 credit hours)**
*Select three of the following*:*

***Recommended College of Business Elective Courses***
ECON 4171 - Economics of International Trade (3)
ECON 4172 - Economics of International Finance (3)
IBUS 3000 - Topics in International Business (3)
IBUS 3400 - International Business Internship (3)
MKTG 3226 - Business-to-Business Marketing and Retailing (3)
MKTG 3231 – Global Marketing Management (3)

***Other Approved Elective Courses***
AFRS 3264 - Business Culture and Entrepreneurship in Africa (3)
AFRS 3265 - African Economic Development (3)
GEOG 3105 - Geography of the Global Economy (3)
INTL 3112 - Globalization and Culture (3)
INTL 3131 - Diplomacy in a Changing World (3)
INTL 3151 - International Political Economy (3)
INTL 3162 - Europe in the World (3)
LTAM 3129 - Cultural Dimension of Doing Business with Spanish-Speaking Countries (3)
LTAM 3154 - Political Economy of Latin America (3)
LTAM 3190 - Political Economy of the Caribbean (3)
LTAM 3310 - Spanish American Civilization and Culture (3)
POLS 3151 - International Political Economy (3)
POLS 3152 - International Organizations (3)
POLS 3153 - European Union (3)
POLS 3155 - Latin American Political Economy (3)
POLS 3165 - East Asia in World Affairs (3)

***Additional Language Elective Courses***
CHNS 3201 - Chinese Grammar and Conversation (3)
CHNS 3202 - Chinese Grammar and Conversation (3)
FREN 3201 - French Grammar and Conversation (3)
FREN 3202 - French Grammar and Composition (3)
FREN 3210 - Introduction to Business French (3)
FREN 4120 - Advanced Business French I (3)
FREN 4121 - Advanced Business French II (3)
GERM 3201 - Advanced German Language and Culture I (3)
GERM 3202 - Advanced German Language and Culture II (3)
GERM 4661 - Advanced Seminar in Business German I (3)
GERM 4671 - Advanced Seminar in Business German II (3)
ITLN 3201 - Italian Grammar and Conversation (3)
ITLN 3202 - Italian Grammar and Composition (3)
JAPN 3201 - Upper Intermediate Japanese I (3)
JAPN 3202 - Upper Intermediate Japanese II (3)
RUSS 3201 - Advanced Russian Grammar, Composition, and Conversation I (3)
RUSS 3202 - Advanced Russian Grammar, Composition, and Conversation II (3)
SPAN 3029 - Cultural Dimension of Doing Business with Spanish-Speaking Countries (3)
SPAN 3201 - Advanced Spanish Grammar and Composition I (3)
SPAN 3202 - Advanced Spanish Conversation and Composition (3)
SPAN 3220 - Spanish for Business and International Trade (3)
SPAN 4120 - Advanced Business Spanish I (3)

**Other courses may be approved by the student's Academic Advisor.*

***The internship may be satisfied by working at least 150 hours at a company or other organization involved in international business. The work program and the company/association must be pre-approved. At least 80% of the student's work must be international in nature. While the internship experience is not required to be performed outside the U.S., it is strongly encouraged.*

**Study Abroad (3 credit hours minimum)**
This requirement may be satisfied by participating in an approved Study Abroad program outside of the U.S. and Canada during the Fall, Spring, or Summer semester. Students must complete 6 credit hours abroad or 3 credit hours with a minimum duration of 3 weeks abroad.

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements
Students who do not meet the Progression Course Requirements above are ineligible for continuation in the Belk College of Business.

To obtain this degree, students must meet the University requirements of a GPA of at least 2.0 overall and in the courses for the major. Students must earn a minimum grade of C in all required Progression, Core, and Major Courses. When students repeat a course, both the old and new grades are included in the overall GPA. Courses repeated under the Grade Replacement Policy are excluded from the overall GPA

computation. However, this repeated course does count as an attempt. Students must also meet the Belk College of Business residency requirements as described at the beginning of this section.

## Minor in International Management

The Minor in International Management is designed to provide students who have an interest in global business with an opportunity to enhance their knowledge of international management. Topic areas include the international business environment, including economic trends, politics, and cultural variations and norms; managerial issues, including all functions of a typical multinational enterprise such as organization, production, marketing, human resources, political risk assessment, and negotiation; and international finance. The Minor in International Management offers students a competitive advantage in career opportunities across a broad spectrum of business and government sectors both domestically and globally. The Minor in International Management is only open to students majoring in the Belk College of Business.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

### Minor Requirements

To be accepted into the Minor in International Management and to progress into the upper-division of the College, students must present a minimum 2.7 cumulative GPA and must be of at least Junior standing. A Minor in International Management requires 15 credit hours. **Students may attempt each of the courses in the minor two times.**

**Required Courses (9 credit hours)**
MGMT 3140 - Management and Organizational Behavior (3)
MGMT 3275 - International Business Management (3)
Study Abroad Experience (One course with a minimum of 3 credit hours)

**Elective Courses (6 credit hours)**
*Select two of the following:*
ECON 3171 - International Business Economics (3)
ECON 4171 - Economics of International Trade (3)
ECON 4172 - Economics of International Finance (3)
FINN 3223 - International Financial Management (3)
MKTG 3231 - Global Marketing Management (3)

### Total = 15 Credit Hours

### Progression Requirements

To obtain this minor, students must meet the University requirements of a GPA of at least 2.0 overall and in the courses for the minor. Students must earn a minimum grade of C in all required and elective minor courses and their prerequisite courses. When students repeat a course, both the old and new grades are included in the overall GPA. Courses repeated under the Grade Replacement Policy are excluded from the overall GPA computation. However, this repeated course does count as an attempt. Students must also meet the Belk College of Business residency requirements as described at the beginning of this section.

### Special Policies or Requirements

International Management minors are required to study abroad. This requirement may be satisfied by participating in an approved Study Abroad Experience (one course with a minimum of 3 credit hours).

## Undergraduate Certificate in Entrepreneurship

The Undergraduate Certificate in Entrepreneurship provides students with an understanding of how to think and act entrepreneurially in efficient and effective ways. The certificate aims to satisfy the increasing societal demand for skill sets related to entrepreneurship, such as being able to recognize and evaluate opportunities or knowing how to create and communicate a vision. Across economic sectors, entrepreneurship serves as the path through which innovations and improvements to the overall quality of life within society come to fruition. In doing so, entrepreneurship and innovation drive economic development.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

The Undergraduate Certificate in Entrepreneurship is open to all UNC Charlotte undergraduate students. However, the capacity of the program is restricted to 60 students entering the program per year. To be accepted into the Undergraduate Certificate in Entrepreneurship program, students must present a minimum 2.7 cumulative GPA and be on track to obtain Sophomore standing by the time of enrollment in the Undergraduate Certificate in Entrepreneurship. In addition, interested students must submit an online application, including a statement of purpose.

### Certificate Requirements

**Core Courses (6 credit hours)**
*Select two of the following:*
ENTR 3276 - Recognizing Entrepreneurial Opportunities (3)
ENTR 3278 - Experiential Entrepreneurship (3)
ENTR 3279 - Entrepreneurial Action and Organizing (3)

**Elective Courses (6 credit hours)**
*Select two of the following:*
ENTR 1511 - The Entrepreneurial Mindset (3)
ENTR 3000 - Special Topics - Entrepreneurship (3)
ENTR 3276 - Recognizing Entrepreneurial Opportunities (3)
ENTR 3278 - Experiential Entrepreneurship (3)
ENTR 3279 - Entrepreneurial Action and Organizing (3)
MGMT 3277 - Entrepreneurship (3)
MGMT 4300 - Entrepreneurial Decisions (3)

### Certificate Total = 12 Credit Hours

### Progression Requirements

Students must meet the University requirements of a GPA of at least 2.0 overall and in the courses for the certificate. Students must earn a minimum grade of C in all required and elective certificate courses. When students repeat a course, both the old and new grades are included in the overall GPA. Courses repeated under the Grade Replacement Policy are excluded from the overall GPA computation. However, this repeated course does count as an attempt. Students may attempt each of the courses in the certificate two times.

# Department of Marketing

belkcollege.charlotte.edu/departments/marketing

## Undergraduate Programs

- **B.S.B.A. in Marketing**
  - **Marketing**
  - **Digital/AI Marketing**

The undergraduate program of study in the Department of Marketing leads to a Bachelor of Science in Business Administration (B.S.B.A.) degree with a Major in Marketing. This major offers a curriculum suitable for students who are: (1) preparing for positions in both profit and nonprofit organizations where enhanced communication abilities and specialized analysis skills in marketing are required, (2) planning to operate their own businesses and want to know how to utilize marketing, and (3) pursuing a strong marketing background at the undergraduate level prior to undertaking graduate studies.

The study of marketing provides students with an opportunity to prepare for various careers including marketing management, product and brand management, sales, advertising and promotions management, digital and social media marketing, retailing, business-to-business marketing, and global marketing. The Department of Marketing offers two different concentrations for marketing majors:

- **Marketing Concentration** - designed for students with an interest in marketing management and strategy
- **Digital/AI Marketing Concentration** - designed for students with an interest in big data-related quantitative marketing and understanding the influence of AI.

The Department of Marketing faculty also participate in various graduate programs (including the MBA, DSBA, and DBA programs) and executive education programs.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

## Bachelor of Science in Business Administration: Marketing *with Concentration in Marketing*

This concentration is designed for students with an interest in "strategic and behavioral" marketing.

Please visit the program website for more information: https://academics.charlotte.edu/program/marketing-b-s-b-a-on-campus/

### Admission Requirements (Pre-Business)

**Freshmen**

Freshman admission is competitive. Students who apply for this major and are accepted into the Belk College of Business are initially classified as Pre-Business (PBUS) majors. Students interested in pursuing a Major in Business Analytics, Finance, International Business, Management, Management Information Systems, Marketing, or Operations and Supply Chain Management should seek admission to the Pre-Business program to ensure appropriate advising and support. Students who complete the Progression Course Requirements listed below may declare an upper-division Major in Business Analytics, Finance, International Business, Management, Management Information Systems, Marketing, or Operations and Supply Chain Management.

- See University Admission Requirements
- *Minimum GPA:* 2.7 overall
- *Pre-Major/Prerequisite/Progression Courses:*
  - ACCT 2121
  - ACCT 2122 or ACCT 3323
  - BUSN 1101
  - ECON 2101
  - ECON 2102
  - INFO 2130
  - MATH 1120, MATH 1121, MATH 1241, or MATH 1242
  - STAT 1220, STAT 1221, STAT 1222, or STAT 2122

  [A minimum grade of C is required for all Progression Courses. Once enrolled at UNC Charlotte, students may attempt each of the Progression Courses listed above a maximum of two times. An attempt is defined as a course that is completed with a final grade of A, B, C, D, or F. Courses repeated under the UNC Charlotte Grade Replacement Policy are excluded from the GPA computation, but will count as an attempt.]

**Transfers**

Transfer students interested in pursuing a Major in Business Analytics, Finance, International Business, Management, Management Information Systems, Marketing, or Operations and Supply Chain Management should seek admission to the Pre-Business program. Transfer admission requirements for the Pre-Business major include the following:

- See University Admission Requirements
- *Minimum GPA:* 2.7 overall
- *Pre-Major/Prerequisite/Progression Courses:* See Progression Courses above. Minimum grade of C in Progression Courses completed.

**Currently Enrolled Students**

*Declaration of Major and/or Progression Course Requirements:*

- Junior standing (60 credit hours or more)
- Pre-Business Requirements listed above
- Approved Change of Major form
- Pre-Business students should submit Change of Major forms to an Academic and Career Coach in the Belk College of Business Niblock Student Center.
- Students who fail to declare their upper-division major on time will be prohibited from declaring their upper-division major in the College if their GPA falls below a 2.7.

## Degree Requirements

The following courses are required. Students may attempt each of these courses a maximum of two times.

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Business Core Courses (27 credit hours)**

BLAW 3150 - Business Law I
COMM 3160 - Business Communications (3)
ECON 3125 - Managerial Economics (3)
FINN 3120 - Financial Management (3)
INFO 3130 - Management Information Systems (3)
MGMT 3140 - Management and Organizational Behavior (3)
MGMT 3280 - Strategic Management (3)
MKTG 3110 - Principles of Marketing (3)
OPER 3100 - Operations Management (3)

**Concentration Courses (18 credit hours)**

***Concentration Required Course (3 credit hours)***

MKTG 3250 - Marketing Strategy Consultancy (3)

***Concentration Elective Courses (15 credit hours)***

*Select at least three of the following:*
MKTG 3210 - Consumer Behavior (3)
MKTG 3222 - Marketing Research (3)
MKTG 3224 - Product and Brand Management (3)
MKTG 3226 - Business-to-Business Marketing and Retailing (3)
MKTG 3228 - Marketing Analytics (3)

*Additional Marketing Concentration Electives*

*Depending on the number of courses taken in the previous option, select enough courses to reach a total of 15 credit hours (five elective courses).*
MKTG 3000 - Topics in Marketing (3)
MKTG 3219 - AI in Marketing (3)
MKTG 3220 - Digital Marketing and Web Analytics (3)
MKTG 3225 - Integrated Marketing Communications (3)
MKTG 3230 - Social Media/Mobile Marketing and Analytics (3)
MKTG 3231 - Global Marketing Management (3)
MKTG 3400 - Marketing Internship (3)
MKTG 3800 - Directed Study (1 to 3)

*Additional Supporting Courses*

*Depending on which courses were taken in the previous option above, select from the following to reach a total of six courses in the major:*
MKTG 3000 - Topics in Marketing (3)
MKTG 3220 - Digital Marketing and Web Analytics (3)
MKTG 3225 - Integrated Marketing Communications (3)
MKTG 3230 - Social Media/Mobile Marketing and Analytics (3)
MKTG 3231 - Global Marketing Management (3)
MKTG 3400 - Marketing Internship (3)
MKTG 3800 - Directed Study (1 to 3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## High-Impact Experience

To obtain this degree, students must complete at least one high-impact experience (e.g., internship, study abroad, project-based learning, case competition (or similar experience) or undergraduate research). Students with current, relevant work experience may seek approval to use that experience to fulfill the high-impact experience degree requirement.

## Progression Requirements

Students who do not meet the Progression Course Requirements above are ineligible for continuation in the Belk College of Business.

To obtain this degree, students must meet the University requirements of a GPA of at least 2.0 overall and in the courses for the major. Students must earn a minimum grade of C in all required Progression, Core, and Major Courses. When students repeat a course, both the old and new grades are included in the overall GPA. Courses repeated under the Grade Replacement Policy are excluded from the overall GPA computation. However, this repeated course does count as an attempt. Students must also meet the Belk College of Business residency requirements as described at the beginning of this section.

## Internship

Because the Department of Marketing is committed to experiential learning, it provides for Marketing majors to use one approved internship for academic credit. An application must be submitted and approved prior to starting the internship. The student may not have a current or prior work history with the internship company.

# Bachelor of Science in Business Administration: Marketing *with Concentration in Digital/AI Marketing*

This concentration is designed for students with an interest in "quantitative" marketing and understanding the influence of AI..

Please visit the program website for more information: https://academics.charlotte.edu/program/marketing-b-s-b-a-on-campus/

## Admission Requirements (Pre-Business)

### Freshmen

Freshman admission is competitive. Students who apply for this major and are accepted into the Belk College of Business are initially classified as Pre-Business (PBUS) majors. Students interested in pursuing a Major in Business Analytics, Finance, International Business, Management, Management Information Systems, Marketing, or Operations and Supply Chain Management should seek admission to the Pre-Business program to ensure appropriate advising and support. Students who complete the Progression Course Requirements listed below may declare an upper-division Major in Business Analytics, Finance, International Business, Management, Management Information Systems, Marketing, or Operations and Supply Chain Management.

- See University Admission Requirements
- *Minimum GPA:* 2.7 overall
- *Pre-Major/Prerequisite/Progression Courses:*
  - ACCT 2121
  - ACCT 2122 or ACCT 3323
  - BUSN 1101
  - ECON 2101
  - ECON 2102
  - INFO 2130
  - MATH 1120, MATH 1121, MATH 1241, or MATH 1242
  - STAT 1220, STAT 1221, STAT 1222, or STAT 2122

  [A minimum grade of C is required for all Progression Courses. Once enrolled at UNC Charlotte, students may attempt each of the Progression Courses listed above a maximum of two times. An attempt is defined as a course that is completed with a final grade of A, B, C, D, or F. Courses repeated under the UNC Charlotte Grade Replacement Policy are excluded from the GPA computation, but will count as an attempt.]

### Transfers

Transfer students interested in pursuing a Major in Business Analytics, Finance, International Business, Management, Management Information Systems, Marketing, or Operations and Supply Chain Management should seek admission to the Pre-Business program. Transfer admission requirements for the Pre-Business major include the following:

- See University Admission Requirements
- *Minimum GPA:* 2.7 overall
- *Pre-Major/Prerequisite/Progression Courses:* See Progression Courses above. Minimum grade of C in Progression Courses completed.

### Currently Enrolled Students

*Declaration of Major and/or Progression Course Requirements:*

- Junior standing (60 credit hours or more)
- Pre-Business Requirements listed above
- Approved Change of Major form
- Pre-Business students should submit Change of Major forms to an Academic and Career Coach in the Belk College of Business Niblock Student Center.
- Students who fail to declare their upper-division major on time will be prohibited from declaring their upper-division major in the College if their GPA falls below a 2.7.

## Degree Requirements

The following courses are required. Students may attempt each of these courses a maximum of two times.

### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

### Business Core Courses (27 credit hours)

BLAW 3150 - Business Law I (3)
COMM 3160 - Business Communications (3)
ECON 3125 - Managerial Economics (3)
FINN 3120 - Financial Management (3)
INFO 3130 - Management Information Systems (3)
MGMT 3140 - Management and Organizational Behavior (3)
MGMT 3280 - Strategic Management (3)
MKTG 3110 - Principles of Marketing (3)
OPER 3100 - Operations Management (3)

### Concentration Courses (18 credit hours)

***Students must complete all three courses in this section.***
MKTG 3219 - AI in Marketing (3)
MKTG 3220 - Digital Marketing and Web Analytics (3)
MKTG 3250 - Marketing Strategy Consultancy (3)

### *Concentration Elective Courses (3 or 6 credit hours)*

*Select one or both of the following:*
MKTG 3222 - Marketing Research (3)
MKTG 3228 - Marketing Analytics (3)

*Other Marketing Elective Courses*
*Select one of the following if both courses MKTG 3222 and MKTG 3228 were taken above; otherwise, select two of the following:*
MKTG 3000 - Topics in Marketing (3)
MKTG 3210 - Consumer Behavior (3)
MKTG 3224 - Product and Brand Management (3)
MKTG 3225 - Integrated Marketing Communications (3)
MKTG 3226 - Business-to-Business Marketing and Retailing (3)
MKTG 3230 - Social Media/Mobile Marketing and Analytics (3)
MKTG 3231 - Global Marketing Management (3)
MKTG 3400 - Marketing Internship (3)
MKTG 3800 - Directed Study (1 to 3)

### Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## High-Impact Experience

To obtain this degree, students must complete at least one high-impact experience (e.g., internship, study abroad, project-based learning, case competition (or similar experience) or undergraduate research). Students with current, relevant work experience may seek approval to use that experience to fulfill the high-impact experience degree requirement.

## Progression Requirements

Students who do not meet the Progression Course Requirements above are ineligible for continuation in the Belk College of Business.

To obtain this degree, students must meet the University requirements of a GPA of at least 2.0 overall and in the courses for the major. Students must earn a minimum grade of C in all required Progression, Core, and Major Courses. When students repeat a course, both the old and new grades are included in the overall GPA. Courses repeated under the Grade Replacement Policy are excluded from the overall GPA computation. However, this repeated course does count as an attempt. Students must also meet the Belk College of Business residency requirements as described at the beginning of this section.

## Internship

Because the Department of Marketing is committed to experiential learning, it provides for Marketing majors to use one approved internship for academic credit. An application must be submitted and approved prior to starting the internship. The student may not have a current or prior work history with the internship company.

# College of Computing and Informatics

# College of Computing and Informatics

cci.charlotte.edu

The University of North Carolina at Charlotte's College of Computing and Informatics (CCI) is part of a dynamic and exciting educational and research institution that combines the knowledge and expertise of multidisciplinary faculty, industry professionals, and students. The CCI was formed in 2000 as the College of Information Technology and renamed the College of Computing and Informatics in 2006.

Computing and Informatics are the foundational forces of the 21st century. They do more than power our devices; they revolutionize how we decipher the genetic code, protect global infrastructure, and redefine human interaction. The College of Computing and Informatics provides a comprehensive ecosystem where students don't just learn to use technology—they learn to architect the future. While traditional disciplines often focus on static career paths, our multi-disciplinary approach provides a versatile foundation that allows graduates to lead in a world where technology, biology, and social systems are inextricably linked.

The work of our College community spans the entire spectrum of the digital and physical world:

- **Computer Science and Software Engineering:** Designing, architecting, and optimizing software systems that power modern computing. This includes algorithms, distributed systems, software engineering, and scalable and agent-based application development that enable reliable, efficient, and innovative technological solutions.
- **Intelligent and Autonomous Systems:** Advancing artificial intelligence and machine learning to develop systems that can model, predict, and solve complex problems across domains and sciences.
- **Cybersecurity and Resilient Infrastructure:** Designing and securing systems that protect data, networks, and critical infrastructure in an increasingly connected world.
- **Data Science and Computational Discovery:** Applying data science, statistical modeling, and advanced analytics to extract insight from complex, large-scale datasets across domains such as business and health sciences enabling data-driven decision-making and discovery.
- **Bioinformatics and Genomics:** Integrating computing, statistics, and biological sciences to analyze and interpret complex biological data to advance our understanding of health, disease, and living systems.
- **Human-Centered Computing and Societal Impact:** Designing accessible, ethical, and user-centered systems while advancing computing education through innovative pedagogical approaches. This involves creating tools and learning frameworks that empower diverse practitioners and leverage computing to transform domains like healthcare and public services—improving societal outcomes and fostering technological literacy.

The College of Computing and Informatics consists of the following departments:

- Department of Bioinformatics and Genomics
- Department of Computer Science
- Department of Cybersecurity
- Department of Human-Centered Computing and Education
- Department of Machine Learning

Plus one interdisciplinary school:

- School of Data Science

CCI's mission is to empower people to shape the future through computing education, research, and engagement.

## Degree Programs

With educational programs rooted in a strong foundation of research, the CCI combines the talents of on- and off-campus partners in achieving its mission. Academic programs include Bachelor's, Master's, and Ph.D. degree programs in computer science, information technology, data science, and bioinformatics and computational biology. Committed to the concept of life-long learning, the College also offers undergraduate and graduate certificate programs.

The College offers a single entry to the Bachelor of Arts in Computer Science and the Bachelor of Science in Computer Science, with the curriculum for specific concentrations housed in the Departments of Computer Science, Cybersecurity, Human-Centered Computing and Education, Machine Learning, and

Bioinformatics and Genomics. The College also offers a Bachelor of Science degree in Artificial Intelligence, housed in the Department of Machine Learning, and Bachelor of Science programs in Data Science and Sports Analytics, housed in the School of Data Science.

A key component of all CCI academic programs is the team interaction between students, faculty, and community partners. Through their involvement in real-world projects, students apply what they learn, thus, giving them practical experience as they help businesses solve computing and informatics challenges.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

## Majors

Within the College of Computing and Informatics, students can pursue a Bachelor of Science (B.S.) or Bachelor of Arts (B.A.) in Computer Science by completing core courses at the college level and the requirements of specific concentrations offered by the Departments of Computer Science, Cybersecurity, Human-Centered Computing and Education, Machine Learning, and Bioinformatics and Genomics. These programs are designed for students interested in pursuing a career in computing, providing a strong foundation in computing and allowing for specialized study in various areas.

Students can pursue a Bachelor of Science (B.S.) degree in Artificial Intelligence (AI), offered by the Department of Machine Learning. This program is designed for students aiming to build skills for a range of careers in AI and machine learning.

Students can also pursue Bachelor of Science (B.S.) degrees in Data Science or Sports Analytics, offered by the School of Data Science. These programs aim to equip students with interdisciplinary data-driven decision-making and analytics.

1. **B.S. in Artificial Intelligence**

2. **B.S. in Computer Science**
   The B.S. in Computer Science offers a broad core of computing subjects and allows in-depth study in one of these concentrations:
   - AI, Robotics, and Gaming
   - Bioinformatics
   - Cybersecurity
   - Data Science
   - Web/Mobile Development and Software Engineering
   - Systems and Networks

3. **B.A. in Computer Science**
   The B.A. in Computer Science offers a foundation in computing and allows in-depth study in one of the following concentrations:
   - AI-Assisted Software Engineering
   - Bioinformatics
   - Human-Computer Interaction
   - Information Technology
   - Pre-Medical Bionformatics

4. **B.S. in Data Science**

5. **B.S. in Sports Analytics**

## Minors

- AI Systems Development
- Bioinformatics and Genomics
- Data Science
- Human-Centered Design
- Interactive Programming
- Software Development
- Software Systems

## Undergraduate Certificates

- Game Design and Development
- Sports Analytics

### Graduate Early Entry Programs

- Artificial Intelligence, M.S., Early Entry
- Artificial Intelligence Systems Development, Graduate Certificate, Early Entry
- Bioinformatics, M.S. or Graduate Certificate, Early Entry
- Computer Science, M.S., Early Entry
- Cybersecurity, M.S., Early Entry
- Health Informatics and Analytics, M.S., Early Entry
- Health Informatics and Analytics, Graduate Certificate, Early Entry
- Human-Computer Interaction, Graduate Certificate, Early Entry
- Information Security and Privacy, Graduate Certificate, Early Entry
- Information Technology, M.S., Early Entry
- Management of Information Technology, Graduate Certificate, Early Entry

## Honors Program

The Computing Honors Program (CHP) is designed to provide academic challenges and research opportunities to high-achieving students to better prepare them for post-graduate success. Computing Honors students must complete honors section(s) of specified course(s), an honors research course, and an honors thesis. Upon the successful completion of the Computing Honors Program, students receive Honors commendations on their transcript and in the commencement program.

### Admission Requirements

The Computing Honors Program will offer the following three entry points.

**Entry Point 1:** This is for students who are admitted to the honors program before having earned credits for ITSC 1213 (Introduction to Computer Science II). This would be first-time-in-college or transfer students entering a CCI major either with or without credit for the first programming course, ITSC 1212 (Introduction to Computer Science I).

**Entry Point 2:** This is for students who are admitted to the honors program after having earned credits for ITSC 1213 (Introduction to Computer Science II). This would be either students entering a CCI major having already completed ITSC 1213 or students who are already in a CCI major but are admitted to the honors program after completing ITSC 1213.

**Entry Point 3:** This is for students who are admitted to the honors program after having earned credits for ITSC 2214 (Data Structures and Algorithms). This would be either students entering a CCI major having already completed that course or students who are already in a CCI major but are admitted to the honors program after completing the data structures course.

**First-time-in-college students must meet the following requirements:**

- See University Admission Requirements
- Minimum Unweighted High School GPA of 3.5 or higher

**Transfer students must meet the following requirements:**

- See University Admission Requirements
- Combined transfer GPA of 3.5 or higher

**Current UNC Charlotte undergraduate students) must meet the following requirements:**

- See University Admission Requirements
- Minimum overall GPA of 3.5 or higher

### Course Requirements

**All Computing Honors students must complete:**

- Honors section of ITSC 3688 Computing and AI: Ethics, Society & Communication (3 credit hours)
- ITSC 3790 Honors Research (3 credit hours)
- ITSC 4750 Honors Thesis (3 credit hours)

**Students admitted via Entry Point 1 must additionally complete:**

- Honors section of ITSC 1213 Introduction to Computer Science II (4 credit hours)
- Honors section of ITSC 2214 Data Structures and Algorithms (4 credit hours)

**Students admitted via Entry Point 2 must additionally complete:**

- Honors section of ITSC 2214 Data Structures and Algorithms (4 credit hours)

## Progression Requirements

To graduate with Honors in Computing, students must meet the following requirements.

- All students must:
    - Complete an honors section of Computing and AI: Ethics, Society & Communication (ITSC 3688) with a grade of B or better.
    - Complete 3 credit hours of Honors Research (ITSC 3790) with a grade of A.
    - Complete 3 credit hours of Honors Thesis (ITSC 4750) with a grade of A.
    - Complete the Application to Candidacy process for graduating with honors, as directed by the Honors College, beginning in the semester prior to registering for ITSC 4750.
- Students admitted via Entry Point 1 must additionally complete an honors section of Introduction to Computer Science II (ITSC 1213) with a grade of B or better.
- Students admitted via Entry Point 2 must additionally complete an honors section of Data Structures and Algorithms (ITSC 2214) with a grade of B or better.

Upon completing the requirements of the honors program, receiving the recommendation of the College of Computing and Informatics Honors Committee and upon certification by the Honors College, the Computing Honors candidate shall graduate with Honors in Computing.

# Department of Bioinformatics and Genomics

## Undergraduate Programs

- B.A. in Computer Science
  - Bioinformatics
- B.S. in Computer Science
  - Bioinformatics
  - Pre-Medical Bioinformatics
- Minor in Bioinformatics and Genomics
- Early Entry: M.S. in Bioinformatics
- Early Entry: Graduate Certificate in Bioinformatics Technology

Bioinformatics lies at the intersection of Computing and Biology. We are in the midst of a genomic revolution that is generating massive amounts of vital data. As Biology becomes more data-driven and quantitative, there is an increasing need for cross-training in computing and the biological sciences. The educational goal of the Department of Bioinformatics and Genomics is to train professionals who can use quantitative and computer skills to help solve critical problems in Biology and Biomedicine.

The department offers degrees at the bachelors, masters, and doctoral levels, as well as a graduate certificate. (See the *UNC Charlotte Graduate Catalog* for information on the M.S. and Ph.D. degrees.) These degrees are designed to educate students in the collection, analysis, and interpretation of biological data, including the massive datasets being collected worldwide.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

## Bachelor of Arts in Computer Science *with Concentration in Bioinformatics*

The Concentration in Bioinformatics presents up-to-date methods for data handling and interpretation while developing an understanding of critical issues in bioinformatics research design, statistical data analysis, and the application of genomics domain knowledge.

The B.A. in Computer Science with Concentration in Bioinformatics requires a compact set of a computer science core (15 credit hours). The Bioinformatics concentration requires 14 credit hours of related work with courses in the fields of biology and chemistry, while other B.A. in Computer Science concentrations require 15 credit hours of elective courses outside the computer science discipline, satisfied by a second major, or a minor. Graduates of the B.A. program are expected to have knowledge and skill in computer science, plus elective coursework outside the discipline. The emphasis in this program is less theoretical/mathematical, and more on the applied side of computing.

### Admission Requirements

#### Freshmen

- See University Admission Requirements
- First-year admission is competitive, based upon an overall evaluation of the high school record.

#### Transfers

- See University Admission Requirements
- *Minimum GPA:* 2.5
- *Pre-Major/Prerequisite Courses:* A grade of C or above is required in any previously attempted Computer Science course(s). Students must be able to transfer credits for the equivalent of College Algebra.

#### Currently Enrolled Students

- *Minimum GPA:* 2.5
- Must have earned 12 or more hours at UNC Charlotte
- Must have earned a grade of C or higher in MATH 1241, or MATH 1120 (Note: Students coming in with MATH 1120 will still be required to take MATH 1241 for the Bachelor of Science program)
- Must have earned a grade of C or higher in ITSC 1212, or ITSC 1110, or DTSC 1302
- Participation in a Change of Major Workshop offered by the CCI Advising Center is required before becoming eligible to declare the Computer Science major. Details are on the CCI Advising website.

### Degree Requirements

#### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information. Students majoring in Computer Science should plan on taking the following courses that meet both general education and major requirements:

MATH 1120 - Calculus (3) *(fulfills Quantitative/Data requirement)*
STAT 1222 - Introduction to Statistics (3) *(fulfills Quantitative/Data requirement)*

#### Major Courses (39 credit hours)

***Core Courses (19 credit hours)***

ITSC 1212 - Introduction to Computer Science I (4)
ITSC 1213 - Introduction to Computer Science II (4)
ITSC 1600 - Computing Professionals (2)
or ITSC 2600 - Computer Science Program, Identity, Career (2)
ITSC 2175 - Logic and Algorithms (3)
or MATH 1165 - Introduction to Discrete Structures (3)
ITSC 2214 - Data Structures and Algorithms (4)
ITSC 3688 - Computing and AI: Ethics, Society & Communication (3)

***Advanced Statistics Course (3 credit hours)***

BINF 3121 - Statistics for Bioinformatics (3)

***Related Courses (14 credit hours)***

BIOL 2120 - General Biology I (3)

BIOL 2130 - General Biology II (3)
CHEM 1251 - General Chemistry I (3)
CHEM 1251L - General Chemistry I Laboratory (1)
CHEM 1252 - General Chemistry II (3)
CHEM 1252L - General Chemistry II Laboratory (1)

***Capstone Course (3 credit hours)***
*Select one of the following:*
BINF 4650 - Senior Project (1 to 3)
BINF 4900 - Principles of Team Science (3)
ITCS 4232 - Game Design and Development Studio (3)
ITIS 4390 - Interaction Design Projects (3)
ITIS 4246 - Competitive Cyber Defense (3)
ITSC 4681 - Senior Design I (3)
ITSC 4682 - Senior Design II (3)
ITSC 4750 - Honors Thesis (3)
ITSC 4850 - Senior Project I (3)
ITSC 4851 - Senior Project II (3)
ITSC 4990 - Undergraduate Research (3)
ITSC 4991 - Undergraduate Thesis (3)

**Concentration Courses (27-29 credit hours)**
***Required Concentration Courses (18 credit hours)***
BINF 1101 - Introduction to Bioinformatics and Genomics (4) *(fulfills the Natural Science General Education requirement)*
BINF 2111 - Introduction to Bioinformatics Computing (4)
BINF 3101 - Sequence Analysis (3)
BINF 4600 - Bioinformatics and Genomics Seminar (1)
BIOL 3111 - Cell Biology (3)
BIOL 3166 - Genetics (3)

***Concentration Elective Courses (9-11 credit hours)***
*Subarea 1: Database/Analytics (3-4 credit hours)*
*Select one of the following:*
BINF 4211 - Applied Data Mining for Bioinformatics (4)

*Subarea 2: Professional Development (3 credit hours)*
*Select one of the following:*
BINF 4171 - Business of Biotechnology (3)
BINF 4191 - Life Sciences and the Law (3)

*Subarea 3: Upper-Division Elective (3-4 credit hours)*
*Select one of the following:*
BINF 3131 - Bioinformatics Algorithms (4)
BINF 3201 - Genomic Methods (4)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements

- The GPA requirement for all Computer Science undergraduate degree programs is 2.0 or above in all courses applied to the degree and all courses in the major.
- Students have a limit of 3 attempts per course in the major (note that Financial Aid may not cover the third attempt). This applies to all courses listed under the Major Courses and Concentration Courses categories of B.S. and B.A. in Computer Science degree programs. A Withdrawal does not count as an attempt, as that effort is already restricted via the Withdrawal limit.
- Students are required to achieve a grade of C or above in all Core Courses within the major, as listed above.

# Bachelor of Arts in Computer Science *with Concentration in Pre-Medical Bioinformatics*

The B.A. in Computer Science with a concentration in Pre-medical Bioinformatics is designed for students who want to position themselves at the cutting edge of medicine, biotechnology, and data-driven science. This program prepares students with the scientific foundation required for medical school, while also equipping them with advanced computational skills that open doors to diverse career paths in healthcare, biomedical research, biotechnology, and artificial intelligence. Planning should be done in consultation with an academic advisor to tailor the program to each student's professional goals.

## Admission Requirements

**Freshmen**

- See University Admission Requirements
- *Minimum GPA*: 2.5
- Admission is competitive for computer science programs and, if admissible, freshmen must present a minimum SAT-Math score of 530 or ACT-Math subscore of 22.

**Transfers**

- See University Admission Requirements
- *Minimum GPA*: 2.5
- *Pre-Major/Prerequisite Courses*: A grade of C or above is required in any previously attempted Computer Science course(s). Students must be able to transfer credits for the equivalent of College Algebra.
- *Transferable Credit Hours*: 24

**Currently Enrolled Students**

- *Minimum GPA*: 2.5
- Must have earned 12 or more hours at UNC Charlotte
- Must have earned a grade of C or higher in MATH 1241, or MATH 1120 (Note: Students coming in with MATH 1120 will still be required to take MATH 1241 for the Bachelor of Science program)
- Must have earned a grade of C or higher in ITSC 1212, or ITSC 1110, or DTSC 1302
- Participation in a Change of Major Workshop offered by the CCI Advising Center is required before becoming eligible to declare the Computer Science major. Details are on the CCI Advising website.

## Degree Requirements

**General Education Courses (31-32 credit hours)**
For details on all required courses, refer to the General Education Program. The degree plan below includes **lab-based and non-lab**

**science courses** that fulfill both general education and major requirements, including introductory chemistry, physics, and bioinformatics courses. Students planning to apply to medical school are strongly encouraged to complete the following mathematics course, which aligns with common medical school prerequisites:

Students planning to apply to medical school are strongly encouraged to complete the following mathematics course, which aligns with common medical school prerequisites:

- MATH 1241

We additionally recommend the following general education math course for students interested in pursuing the intersection of bioinformatics, human health, and artificial intelligence:

- MATH 1242

**Major Courses (23 credit hours)**
***Core Courses (12 credit hours)***
ITSC 1212 - Introduction to Computer Science I (4)
ITSC 1213 - Introduction to Computer Science II (4)
ITSC 2214 - Data Structures and Algorithms (4)

***Computing Professionals Requirement (2 credit hours)***
ITSC 1600 - Computing Professionals (2)
or ITSC 2600 - Computer Science Program, Identity, Career (2)

***Math for Computer Science (3 credit hours)***
*Students should select from one of the following:*
ITSC 2175 - Logic and Algorithms (3)
or MATH 2164 - Matrices and Linear Algebra (3)
or STAT 2122 - Introduction to Probability and Statistics (3)

***Advanced Statistics Course (3 credit hours)***
BINF 3121 - Statistics for Bioinformatics (3)

***Capstone Course (3 credit hours)***
*Select one of the following:*
BINF 4650 - Senior Project (1 to 3)
BINF 4900 - Principles of Team Science (3)

**Concentration Courses (61 credit hours)**
***Required Concentration Courses (15 credit hours)***
BINF 1101 - Introduction to Bioinformatics and Genomics (4)
BINF 2111 - Introduction to Bioinformatics Computing (4)
BINF 3101 - Sequence Analysis (3)
BINF 4600 - Bioinformatics and Genomics Seminar (1)
BIOL 3111 - Cell Biology (3)

**Medical Preparation Courses (46 credit hours)**
***Scientific Foundations of Human Health (16 credit hours)***
**Foundations in Chemistry (8 credit hours)**
CHEM 1251 - General Chemistry I (3)
CHEM 1251L - General Chemistry I Laboratory (1)
CHEM 1252 - General Chemistry II (3)
CHEM 1252L - General Chemistry II Laboratory (1)

**Foundations in Physics (8 credit hours)**
PHYS 1101 - Introductory Physics I (3)
PHYS 1101L - Introductory Physics I Laboratory (1)
PHYS 1102 - Introductory Physics II (3)
PHYS 1102L - Introductory Physics II Laboratory (1)
OR
PHYS 2101 - Physics for Science and Engineering I (3)
PHYS 2101L - Physics for Science and Engineering I Laboratory (1)
PHYS 2102 - Physics for Science and Engineering II (3)
PHYS 2102L - Physics for Science and Engineering II Laboratory (1)

***Early Professional Development (19 credit hours)***
BIOL 2120 - General Biology I (3)
BIOL 2120L - General Biology I Laboratory (1)
BIOL 2130 - General Biology II (3)
BIOL 2130L - General Biology II Laboratory (1)
CHEM 2131 - Organic Chemistry I (3)
CHEM 2131L - Organic Chemistry I Laboratory (1)
CHEM 2132 - Organic Chemistry II (3)
CHEM 2132L - Organic Chemistry II Laboratory (1)
CHEM 4165 - Principles of Biochemistry I (3)

***Bioinformatic Approaches to Molecular Medicine (4 credit hours)***
BINF 3201 - Genomic Methods (4)

***Computational Thinking for Modern Medicine (4 credit hours)***
BINF 3131 - Bioinformatics Algorithms (4)
or BINF 4211 - Applied Data Mining for Bioinformatics (4)

***Ethics, Enterprise, and Regulation in Modern Biomedicine (3 credit hours)***
BINF 4171 - Business of Biotechnology (3)
or BINF 4191 - Life Sciences and the Law (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Progression Requirements
Courses in the Major Courses and Concentration courses must be passed with a C or above.

### Degree Total = 120 Credit Hours

## Bachelor of Science in Computer Science *with Concentration in Bioinformatics*
This concentration is designed to best prepare students to match the diverse requirements of employers. It also prepares students to pursue graduate studies in computing and other related areas.

The B.S. in Computer Science program requires a common set of computer science courses, a set of courses within the concentration, as well as a set of elective courses outside the non-computer science discipline, satisfied by a second major, or a minor. Graduates from the B.S. program are expected to have knowledge and skill in computer

science plus elective coursework outside the discipline.

## Admission Requirements

### Freshmen

- See University Admission Requirements
- First-year admission is competitive, based upon an overall evaluation of the high school record.

### Transfers

- See University Admission Requirements
- *Minimum GPA:* 2.5
- *Pre-Major/Prerequisite Courses:* A grade of C or above is required in any previously attempted Computer Science course(s). Students must be able to transfer credits for the equivalent of College Algebra.

### Currently Enrolled Students

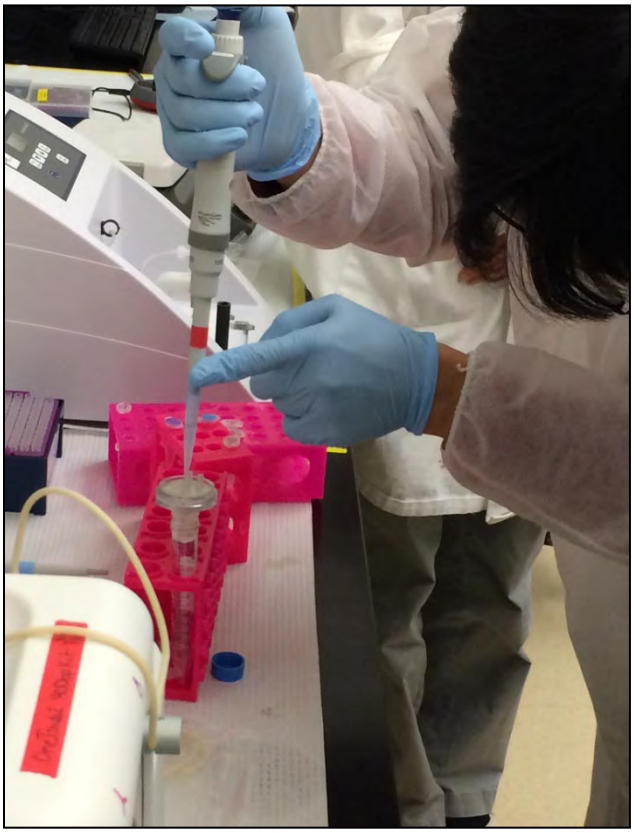
- *Minimum GPA:* 2.5
- Must have earned 12 or more hours at UNC Charlotte
- Must have earned a grade of C or higher in MATH 1241, or MATH 1120 (Note: Students coming in with MATH 1120 will still be required to take MATH 1241 for the Bachelor of Science program)
- Must have earned a grade of C or higher in ITSC 1212, or ITSC 1110, or DTSC 1302
- Participation in a Change of Major Workshop offered by the CCI Advising Center is required before becoming eligible to declare the Computer Science major. Details are on the CCI Advising website.

## Degree Requirements

### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information. Students majoring in Computer Science should plan on taking the following courses that meet both general education and major requirements:

MATH 1241 - Calculus I (3) *(fulfills Quantitative/Data requirement)*
MATH 1242 - Calculus II (3) *(fulfills Quantitative/Data requirement)*



### Major Courses (53 credit hours)

***Core Courses (29 credit hours)***

ITSC 1212 - Introduction to Computer Science I (4)
ITSC 1213 - Introduction to Computer Science II (4)
ITSC 1600 - Computing Professionals (2)
or ITSC 2600 - Computer Science Program, Identity, Career (2)
ITSC 2175 - Logic and Algorithms (3)
or MATH 1165 - Introduction to Discrete Structures (3)
ITSC 2181 - Introduction to Computer Systems (4)
ITSC 2214 - Data Structures and Algorithms (4)
ITSC 3146 - Introduction to Operating Systems and Networking (3)
ITSC 3155 - Software Engineering (3)
ITSC 3688 - Computing and AI: Ethics, Society & Communication (3)

***Mathematics and Statistics Courses (6 credit hours)***

MATH 2164 - Matrices and Linear Algebra (3)
STAT 2122 - Introduction to Probability and Statistics (3)

***Elective Courses in Other Disciplines (15 credit hours)***

Select 15 elective credit hours. Courses that count towards this requirement must have a discipline prefix other than ITSC, ITCS, or ITIS. This requirement can be fulfilled by pursuing a/an:

- Minor
- Second major
- Honors program
- Undergraduate certificate
- Set of courses selected by the student that do not satisfy any other degree requirement

**Concentration Courses (21-22 credit hours)**

***Required Concentration Courses (12 credit hours)***

BINF 1101 - Introduction to Bioinformatics and Genomics (4) (fulfills the Natural Science General Education requirement)
BINF 2111 - Introduction to Bioinformatics Computing (4)
BINF 3101 - Sequence Analysis (3)
BINF 4600 - Bioinformatics and Genomics Seminar (1)

***Concentration Elective Courses (9-11 credit hours)***

*Subarea 1: Database/Analytics (3-4 credit hours)*
*Select one of the following:*
BINF 3121 - Statistics for Bioinformatics (3)
BINF 4211 - Applied Data Mining for Bioinformatics (4)

*Subarea 2: Professional Development (3 credit hours)*
*Select one of the following:*
BINF 4171 - Business of Biotechnology (3)
BINF 4191 - Life Sciences and the Law (3)

*Subarea 3: Upper-Division Elective (3-4 credit hours)*
*Select one of the following:*
BINF 3131 - Bioinformatics Algorithms (4)
BINF 3201 - Genomic Methods (4)

**Capstone Course (3 credit hours)**

*Select one of the following:*
BINF 4650 - Senior Project (1 to 3)
BINF 4900 - Principles of Team Science (3)
ITCS 4232 - Game Design and Development Studio (3)
ITIS 4390 - Interaction Design Projects (3)
ITIS 4246 - Competitive Cyber Defense (3)
ITSC 4155 - Software Development Projects (3)
ITSC 4681 - Senior Design I (3)
ITSC 4682 - Senior Design II (3)
ITSC 4750 - Honors Thesis (3)
ITSC 4850 - Senior Project I (3)
ITSC 4851 - Senior Project II (3)
ITSC 4990 - Undergraduate Research (3)
ITSC 4991 - Undergraduate Thesis (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

### Progression Requirements

- The GPA requirement for all Computer Science undergraduate degree programs is 2.0 or above in all courses applied to the degree and all courses in the major.
- Students have a limit of 3 attempts per course in the major (note that Financial Aid may not cover the third attempt). This applies to all courses listed under the Major Courses and Concentration Courses categories of B.S. and B.A. in Computer Science degree programs. A Withdrawal does not count as an attempt, as that effort is already restricted via the Withdrawal limit.
- Students are required to achieve a grade of C or above in all Core Courses within the major, as listed above.

## Minor in Bioinformatics and Genomics

Designed to introduce students to the collection, informatics analysis and interpretation of data derived from genomic and biological macromolecular investigations, the Minor in Bioinformatics and Genomics provides students with a foundation of understanding and the computing skill necessary to communicate in the increasingly data-centric life sciences. In addition to gaining first-hand experience with current technologies for high-throughput data generation, students will receive training in up-to-date methods for data handling and interpretation while developing an understanding of critical issues in bioinformatics research design, statistical data analysis, and the application of genomics domain knowledge.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Minimum GPA: 2.0
- Students enrolled in a Computer Science major with a concentration in Bioinformatics are not eligible to declare this minor.

### Minor Requirements

BINF 1101 - Introduction to Bioinformatics and Genomics (4)
BINF 2111 - Introduction to Bioinformatics Computing (4)
BINF 3101 - Sequence Analysis (3)
BINF 3121 - Statistics for Bioinformatics (3)
or BINF 4211 - Applied Data Mining for Bioinformatics (4)
BINF 4600 - Bioinformatics and Genomics Seminar (1)

### Total = 15 or 16 Credit Hours

## Early Entry: Master of Science in Bioinformatics, or Graduate Certificate in Bioinformatics Technology

Exceptional undergraduate students at UNC Charlotte may be accepted into the M.S. in Bioinformatics or Graduate Certificate in Bioinformatics Technology, and begin work toward a graduate degree before completion of the baccalaureate degree.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

### Continued Enrollment Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA and a 3.0 Junior/Senior GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

### Special Policies or Requirements

Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for these degree programs, see the program listings in the *Graduate Catalog*.

# Department of Computer Science

## Undergraduate Programs

- B.A. in Computer Science
  - AI-Assisted Software Engineering
- B.S. in Computer Science
  - Systems and Networks
  - Web/Mobile Development and Software Engineering
- Minor in Interactive Programming
- Minor in Software Development
- Minor in Software Systems
- Undergraduate Certificate in Game Design and Development
- Early Entry: M.S. in Computer Science

The Department of Computer Science focuses on the fundamental principles and advanced applications of computing technology. By balancing theoretical foundations with hands-on software engineering and systems design, the department prepares students to build the robust infrastructure of the digital age. Faculty and students collaborate to solve complex computational problems, ensuring that computing infrastructures are efficient, scalable, and capable of driving innovation across every sector of the global economy.

The department offers degrees at the bachelor's, master's, and doctoral levels, as well as certificates. (See the *UNC Charlotte Graduate Catalog* for information on the M.S. and Ph.D. degrees.)

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

# Bachelor of Arts in AI-Assisted Software Engineering

This concentration emphasizes full-stack software development skills, leveraging relevant Artificial Intelligence tools throughout the software engineering life cycle. Graduates will gain exposure to real-world and industry case-studies, have the technical breadth and professional skills to collaborate effectively with specialized teams, translate technical concepts across domains. Ultimately, graduates will be able to contribute to strategic decision-making in technology-driven environments.

The B.A. in Computer Science program requires a compact set of a computer science core, a set of courses within the concentration, as well as a set of elective courses outside the computer science disciplines, satisfied by a second major, or a minor. Graduates from the B.A. program are expected to have knowledge and skills in computer science plus elective coursework outside the discipline. The emphasis in this program is less theoretical/mathematical, and more on the applied side of computing.

All program-level Admissions and Progression Requirements are in addition to the University of North Carolina at Charlotte Admission Requirements.

## Admission Requirements

### Freshmen

- See University Admission Requirements
- First-year admission is competitive, based upon an overall evaluation of the high school record.

### Transfers

- See University Admission Requirements
- *Minimum GPA*: 2.5
- *Pre-Major/Prerequisite Courses*: A grade of C or above is required in any previously attempted Computer Science course(s). Students must be able to transfer credits for the equivalent of College Algebra.

### Currently Enrolled Students

- *Minimum GPA*: 2.5
- Must have earned 12 or more hours at UNC Charlotte
- Must have earned a grade of C or higher in MATH 1241, or MATH 1120
- Must have earned a grade of C or higher in ITSC 1212, or ITSC 1110, or DTSC 1302
- Participation in a Change of Major Workshop offered by the CCI Advising Center is required before becoming eligible to declare the Computer Science major. Details are on the CCI Advising website.

### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information. Students majoring in Computer Science should plan on taking the following courses that meet both general education and major requirements:

MATH 1120 - Calculus (3)
STAT 1222 - Introduction to Statistics (3)

## Major Courses (41-44 credit hours)

### Core Courses (20 credit hours)

ITSC 1212 - Introduction to Computer Science I (4)
ITSC 1213 - Introduction to Computer Science II (4)
ITSC 1600 - Computing Professionals (2)
or ITSC 2600 - Computer Science Program, Identity, Career (2)
ITSC 2175 - Logic and Algorithms (3)
ITSC 2214 - Data Structures and Algorithms (4)
ITSC 3688 - Computing and AI: Ethics, Society & Communication (3)

### Advanced Statistics Course (3 credit hours)

STAT 2223 - Elements of Statistics II (3)

### Elective Courses in Other Disciplines (15 credit hours)

Select 15 elective credit hours. Courses that count towards this requirement must have a discipline prefix other than ITSC, ITCS, DTSC, ITIS, or ITAI. This requirement can be partially fulfilled by pursuing the following online cluster:

#### *Professional Studies Cluster*

PROS 2101 - Project Management: Foundations (3)
PROS 2102 - Project Management: Practitioner (3)
PROS 2103 - Project Management: Specialist (3)
PROS 2201 - Leadership Essentials: Foundations (1)
PROS 2202 - Leadership Essentials: Practitioner (1)
PROS 2203 - Leadership Essentials: Specialist (1)
PROS 3000 - Topics in Professional Studies (1 to 3)
PROS 3105 - Project Management: Process Improvement & Process Design (3)

### Capstone Course (3-6 credit hours)

Complete a capstone project. Students have an option of choosing a 2-semester capstone or a 1-semester capstone, choosing from the following:
ITSC 4681 - Senior Design I (3)
ITSC 4682 - Senior Design II (3)
ITSC 4750 - Honors Thesis (3)
ITSC 4850 - Senior Project I (3)
ITSC 4851 - Senior Project II (3)
ITSC 4990 - Undergraduate Research (3)
ITSC 4991 - Undergraduate Thesis (3)

## Concentration Courses (15-18 credit hours)

### Concentration Core Courses (15 credit hours)

ITIS 3135 - Front-End Web Application Development (3)
ITIS 3310 - Software Architecture and Design (3)
ITIS 4164 - AI-Assisted Software Engineering (3)
ITIS 4166 - Backend Application Development (3)
ITSC 3160 - Database Design and Implementation (3)

### Concentration Elective Courses (0-3 credit hours)

If students choose the 1-semester capstone, they need to take a technical elective course selected from the list below:
ITIS 3130 - Introduction to Human-Centered Computing (3)
ITIS 3200 - Introduction to Information Security and Privacy (3)
ITIS 3300 - Software Requirements, Analysis and Testing (3)

ITIS 4350 - Design Prototyping (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements
The GPA requirement for all Computer Science undergraduate degree programs is 2.0 or above in all courses applied to the degree and all courses in the major.

Students have a limit of 3 attempts per course in the major (note that Financial Aid may not cover the third attempt). This applies to all courses listed under the Major Courses and Concentration Courses categories of B.S. and B.A. in Computer Science degree programs. A Withdrawal does not count as an attempt, as that effort is already restricted via the Withdrawal limit.

Students are required to achieve a grade of C or above in all Core Courses within the major, as listed above.

# Bachelor of Science in Computer Science *with Concentration in Systems and Networks*
The B.S. in Computer Science program requires a common set of computer science courses, a set of courses within the concentration, as well as a set of elective courses outside the non-computer science discipline, satisfied by a second major, or a minor. Graduates from the B.S. program are expected to have knowledge and skill in computer science plus elective coursework outside the discipline.

The Computer Systems and Networks concentration enables students to effectively use the computing and communication capabilities of computers and related devices, emphasizing productivity, correctness, performance, and reliability. Computer Systems encompasses the study of computer organization and architectures, covering processors, memory, storage, external devices (e.g., graphic cards, solid-state drives), and their interconnections. It also encompasses system software, including programming languages, compilers, operating systems, database systems, and parallel or distributed processing.

Computer Networks topics span a wide range of concepts and applications, addressing the design, implementation, management, and security of computer networks. Topics include OSI model layers, protocol intricacies, routing algorithms, network security, and emerging technologies like Software-Defined Networking (SDN), Internet of Things (IoT), and Wireless and Edge-Computing Networks.

The Systems and Networks concentration equips students to leverage existing systems to build high-performing, maintainable, and reliable applications. It also enables them to design, manage, secure, and optimize complex computer networks in the modern digital landscape. Students will gain an understanding of a computer system's functional components, characteristics, performance, and interactions, with a focus on addressing challenges like harnessing parallelism, managing memory and storage, and achieving high-bandwidth and low-latency communications for sustained performance improvements now and in the future.

This concentration additionally prepares students to design novel computing and network systems, allowing application engineers to achieve the same level of quality with a fraction of the development effort.

## Admission Requirements
### Freshmen
- See University Admission Requirements
- First-year admission is competitive, based upon an overall evaluation of the high school record.

### Transfers
- See University Admission Requirements
- *Minimum GPA:* 2.5
- *Pre-Major/Prerequisite Courses:* A grade of C or above is required in any previously attempted Computer Science course(s). Students must be able to transfer credits for the equivalent of College Algebra.

### Currently Enrolled Students
- *Minimum GPA:* 2.5
- Must have earned 12 or more hours at UNC Charlotte
- Must have earned a grade of C or higher in MATH 1241, or MATH 1120 (Note: Students coming in with MATH 1120 will still be required to take MATH 1241 for the Bachelor of Science program)
- Must have earned a grade of C or higher in ITSC 1212, or ITSC 1110, or DTSC 1302
- Participation in a Change of Major Workshop offered by the CCI Advising Center is required before becoming eligible to declare the Computer Science major. Details are on the CCI Advising website.

## Degree Requirements
### General Education Courses (31-32 credit hours)
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information. Students majoring in Computer Science should plan on taking the following courses that meet both general education and major requirements:

MATH 1241 - Calculus I (3) *(fulfills Quantitative/Data requirement)*
MATH 1242 - Calculus II (3) *(fulfills Quantitative/Data requirement)*

### Major Courses (53 credit hours)
***Core Courses (29 credit hours)***
ITSC 1212 - Introduction to Computer Science I (4)
ITSC 1213 - Introduction to Computer Science II (4)
ITSC 1600 - Computing Professionals (2)
or ITSC 2600 - Computer Science Program, Identity, Career (2)
ITSC 2175 - Logic and Algorithms (3)
or MATH 1165 - Introduction to Discrete Structures (3)

ITSC 2181 - Introduction to Computer Systems (4)
ITSC 2214 - Data Structures and Algorithms (4)
ITSC 3146 - Introduction to Operating Systems and Networking (3)
ITSC 3155 - Software Engineering (3)
ITSC 3688 - Computing and AI: Ethics, Society & Communication (3)

***Mathematics and Statistics Courses (6 credit hours)***
MATH 2164 - Matrices and Linear Algebra (3)
STAT 2122 - Introduction to Probability and Statistics (3)

***Elective Courses in Other Disciplines (15 credit hours)***
Select 15 elective credit hours. Courses that count towards this requirement must have a discipline prefix other than ITSC, ITCS, or ITIS. This requirement can be fulfilled by pursuing a/an:

- Minor
- Second major
- Honors program
- Undergraduate certificate
- Set of courses selected by the student that do not satisfy any other degree requirement

***Capstone Course (3 credit hours)***
*Select one of the following:*
ITCS 4232 - Game Design and Development Studio (3)
ITIS 4390 - Interaction Design Projects (3)
ITIS 4246 - Competitive Cyber Defense (3)
ITSC 4155 - Software Development Projects (3)
ITSC 4681 - Senior Design I (3)
ITSC 4682 - Senior Design II (3)
ITSC 4750 - Honors Thesis (3)
ITSC 4850 - Senior Project I (3)
ITSC 4851 - Senior Project II (3)
ITSC 4990 - Undergraduate Research (3)
ITSC 4991 - Undergraduate Thesis (3)

**Concentration Courses (21 credit hours)**
***Concentration Elective Courses (15 credit hours)***
*Select five of the following:*
ITCS 3143 - Operating Systems (3)
ITCS 3156 - Introduction to Machine Learning (3)
ITCS 3166 - Introduction to Computer Networks (3)
ITCS 3190 - Introduction to Cloud Computing for Data Analysis (3)
ITCS 4102 - Programming Languages (3)
ITCS 4141 - Computer Organization and Architecture (3)
ITCS 4145 - Parallel Programming (3)
ITIS 3200 - Introduction to Information Security and Privacy (3)
ITIS 3246 - IT Infrastructure and Security (3)
ITIS 4166 - Backend Application Development (3)
ITSC 3160 - Database Design and Implementation (3)

***Concentration Technical Elective Courses (6 credit hours)***
Select elective courses from the 3000- or 4000- levels of courses offered by the College of Computing and Informatics.

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

### Progression Requirements
- The GPA requirement for all Computer Science undergraduate degree programs is 2.0 or above in all courses applied to the degree and all courses in the major.
- Students have a limit of 3 attempts per course in the major (note that Financial Aid may not cover the third attempt). This applies to all courses listed under the Major Courses and Concentration Courses categories of B.S. and B.A. in Computer Science degree programs. A Withdrawal does not count as an attempt, as that effort is already restricted via the Withdrawal limit.
- Students are required to achieve a grade of C or above in all Core Courses within the major, as listed above.

## Bachelor of Science in Computer Science *with Concentration in Web/Mobile Development and Software Engineering*

This concentration is designed to best prepare students to match the diverse requirements of employers. It also prepares students to pursue graduate studies in computing and other related areas.

The B.S. in Computer Science program requires a common set of computer science courses, a set of courses within the concentration, as well as a set of elective courses outside the non-computer science discipline, satisfied by a second major, or a minor. Graduates from the B.S. program are expected to have knowledge and skill in computer science plus elective coursework outside the discipline.

### Admission Requirements
**Freshmen**
- See University Admission Requirements
- First-year admission is competitive, based upon an overall evaluation of the high school record.

**Transfers**
- See University Admission Requirements
- *Minimum GPA:* 2.5
- *Pre-Major/Prerequisite Courses:* A grade of C or above is required in any previously attempted Computer Science course(s). Students must be able to transfer credits for the equivalent of College Algebra.

**Currently Enrolled Students**
- *Minimum GPA:* 2.5
- Must have earned 12 or more hours at UNC Charlotte
- Must have earned a grade of C or higher in MATH 1241, or MATH 1120 (Note: Students coming in with MATH 1120 will still be required to take MATH 1241 for the Bachelor of Science program)
- Must have earned a grade of C or higher in ITSC 1212, or ITSC 1110,

or DTSC 1302

- Participation in a Change of Major Workshop offered by the CCI Advising Center is required before becoming eligible to declare the Computer Science major. Details are on the CCI Advising website.

## Degree Requirements

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information. Students majoring in Computer Science should plan on taking the following courses that meet both general education and major requirements:

MATH 1241 - Calculus I (3) *(fulfills Quantitative/Data requirement)*
MATH 1242 - Calculus II (3) *(fulfills Quantitative/Data requirement)*

**Major Courses (53 credit hours)**

***Core Courses (29 credit hours)***

ITSC 1212 - Introduction to Computer Science I (4)
ITSC 1213 - Introduction to Computer Science II (4)
ITSC 1600 - Computing Professionals (2)
or ITSC 2600 - Computer Science Program, Identity, Career (2)
ITSC 2175 - Logic and Algorithms (3)
or MATH 1165 - Introduction to Discrete Structures (3)
ITSC 2181 - Introduction to Computer Systems (4)
ITSC 2214 - Data Structures and Algorithms (4)
ITSC 3146 - Introduction to Operating Systems and Networking (3)
ITSC 3155 - Software Engineering (3)
ITSC 3688 - Computing and AI: Ethics, Society & Communication (3)

***Mathematics and Statistics Courses (6 credit hours)***

MATH 2164 - Matrices and Linear Algebra (3)
STAT 2122 - Introduction to Probability and Statistics (3)

***Elective Courses in Other Disciplines (15 credit hours)***

Select 15 elective credit hours. Courses that count towards this requirement must have a discipline prefix other than ITSC, ITCS, or ITIS. This requirement can be fulfilled by pursuing a/an:

- Minor
- Second major
- Honors program
- Undergraduate certificate
- Set of courses selected by the student that do not satisfy any other degree requirement

***Capstone Course (3 credit hours)***

*Select one of the following:*

ITCS 4232 - Game Design and Development Studio (3)
ITIS 4390 - Interaction Design Projects (3)
ITIS 4246 - Competitive Cyber Defense (3)
ITSC 4155 - Software Development Projects (3)
ITSC 4681 - Senior Design I (3)
ITSC 4682 - Senior Design II (3)
ITSC 4750 - Honors Thesis (3)
ITSC 4850 - Senior Project I (3)
ITSC 4851 - Senior Project II (3)
ITSC 4990 - Undergraduate Research (3)
ITSC 4991 - Undergraduate Thesis (3)

**Concentration Courses (27 credit hours)**

***Required Concentration Courses (12 credit hours)***

ITIS 3135 - Front-End Web Application Development (3)
ITIS 3310 - Software Architecture and Design (3)
ITIS 4221 - Secure Programming and Penetration Testing (3)
ITSC 3160 - Database Design and Implementation (3)

***Elective Concentration Courses (9 credit hours)***

*Select three courses from the lists below. (The categories are only to indicate sub-areas of this concentration; the courses selected do not need to be within one category.)*

*Software Design Courses*

ITCS 3112 - Design and Implementation of Object-Oriented Systems (3)
ITIS 3130 - Introduction to Human-Centered Computing (3)
ITIS 4350 - Design Prototyping (3)

*Software Development Courses*

ITIS 3300 - Software Requirements, Analysis and Testing (3)
ITIS 3320 - Introduction to Software Testing and Assurance (3)
ITIS 4166 - Backend Application Development (3)
ITIS 4180 - Mobile Application Development (3)

***Technical Elective Concentration Courses (6 credit hours)***

Select two elective courses from the 3000- or 4000-levels of courses offered by the College of Computing and Informatics.

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements

- The GPA requirement for all Computer Science undergraduate degree programs is 2.0 or above in all courses applied to the degree and all courses in the major.
- Students have a limit of 3 attempts per course in the major (note that Financial Aid may not cover the third attempt). This applies to all courses listed under the Major Courses and Concentration Courses categories of B.S. and B.A. in Computer Science degree programs. A Withdrawal does not count as an attempt, as that effort is already restricted via the Withdrawal limit.
- Students are required to achieve a grade of C or above in all Core Courses within the major, as listed above.

# Minor in Interactive Programming

The Minor in Interactive Programming provides students with the knowledge and skills in programming using event-driven languages. Students gain hands-on knowledge of how to develop web and software applications and understand critical issues in design, development, and implementation.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- *Minimum GPA*: 2.0
- Students enrolled in a Computer Science major with a concentration other than Bioinformatics are not eligible to declare this minor.

## Minor Requirements

**Required Courses (12 credit hours)**
ITSC 1212 - Introduction to Computer Science I (4)
ITSC 1213 - Introduction to Computer Science II (4)
ITSC 2214 - Data Structures and Algorithms (4)

**1st Elective Course (3 credit hours)**
*Select one of the following:*
ITIS 3130 - Introduction to Human-Centered Computing (3)
ITIS 4350 - Design Prototyping (3)

**2nd Elective Course (3 credit hours)**
*Select one of the following:*
ITIS 3135 - Front-End Web Application Development (3)
ITIS 4180 - Mobile Application Development (3)

## Progression Requirements

All courses must be completed with a grade of C or above.

## Minor Total = 18 Credit Hours

# Minor in Software Development

The Minor in Software Development provides students with the knowledge and skills in software development using programming languages. Students gain hands-on knowledge of software development processes.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
  - *Minimum GPA*: 2.0
  - Students enrolled in a Computer Science major with a concentration other than Bioinformatics are not eligible to declare this minor.

## Minor Requirements

**Required Courses (15 credit hours)**
ITSC 1212 - Introduction to Computer Science I (4)
ITSC 1213 - Introduction to Computer Science II (4)
ITSC 2214 - Data Structures and Algorithms (4)
ITSC 3155 - Software Engineering (3)

**Elective Course (3 credit hours)**
*Select one of the following:*
ITIS 3130 - Introduction to Human-Centered Computing (3)
ITIS 3135 - Front-End Web Application Development (3)
ITIS 4166 - Backend Application Development (3)
ITIS 4180 - Mobile Application Development (3)
ITIS 4350 - Design Prototyping (3)

## Progression Requirements

All courses must be completed with a grade of C or above.

## Minor Total = 18 Credit Hours

# Minor in Software Systems

The Minor in Software Systems is designed for non-Computer Science majors to have significant exposure in fundamentals of computer science and the classical technical area of software systems, which can provide valuable knowledge and skill in the development of students' majors and for the job market.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Minimum GPA: 2.0
- Students enrolled in a Computer Science major with a concentration other than Bioinformatics are not eligible to declare this minor.
- Students must have a background in mathematics and have completed one of the following courses:
  - MATH 1100 - College Algebra (3)
    or MATH 1101 – College Algebra with Workshop (4)
  - MATH 1103 - Precalculus Mathematics for Science and Engineering (3)
  - MATH 1120 - Calculus (3)
  - MATH 1241 - Calculus I (3)

## Minor Requirements

The minor requires a minimum of 17 credit hours.

**Core Courses (12 credit hours)**
ITSC 1212 - Introduction to Computer Science I (4)
ITSC 1213 - Introduction to Computer Science II (4)
ITSC 2214 - Data Structures and Algorithms (4)

**Elective Concentration Courses (6 credit hours)**
*Select two of the following:*
ITCS 3166 - Introduction to Computer Networks (3)
ITCS 4145 - Parallel Programming (3)
ITSC 3155 - Software Engineering (3)
ITSC 3160 - Database Design and Implementation (3)

## Minor Total = 18 Credit Hours

### Progression Requirements
Students must receive a grade of C or above in all courses toward the minor.

## Undergraduate Certificate in Game Design and Development

The Undergraduate Certificate in Game Design and Development (GDD) provides undergraduate students with the opportunity to reach a demonstrated level of competence in game design and development. Coursework towards the certificate in GDD can be used for credit towards the Bachelor's degree in Computer Science. However, its primary purpose is to provide a well-defined target for students who want to advance their knowledge of modern game design and development techniques and work with a variety of professionals, from artists to writers, to being the vision for an interactive game or media product to life. The certificate may be pursued concurrently with any of the undergraduate degree programs at UNC Charlotte.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

To be admitted into the Undergraduate Certificate in Game Design and Development, students must meet the general University requirements for admission into Undergraduate Certificate Programs. See University Admission Requirements.

In addition, the program expects a current working knowledge of two higher-level languages, including at least one procedural language; and a familiarity with computer applications. The following minimal background in mathematics is also required: two semesters of calculus and one semester of discrete structures. Individuals who have worked at a high professional level in the computer industry may be able to substitute work experience for specific subject area admission requirements.

Students who anticipate applying certificate courses toward an undergraduate degree program should seek advice from that program prior to enrolling. Admission to an undergraduate degree program does not ensure admission into a discipline-related certificate program.

### Course Requirements

The certificate will be awarded upon completion of five to six undergraduate level courses (15-18 credit hours) in the area of game design and development. Up to a maximum of six transfer credits may be applied to the certificate. Course substitutions may be made at the discretion of the GDD Certificate Coordinator.

**Required Compulsory Courses (12 credit hours)**

ITCS 4120 - Introduction to Computer Graphics (3)
ITCS 4230 - Introduction to Game Design and Development (3)
ITCS 4231 - Advanced Game Design and Development (3)
ITCS 4232 - Game Design and Development Studio (3)

**Concentration Courses (3-6 credit hours)**

*Select one of the following two-course sequences*:

***Artificial Intelligence***

ITCS 3153 - Introduction to Artificial Intelligence (3)
ITCS 4236 - Artificial Intelligence for Computer Games (3)

***Graphics***

ITCS 4120 Introduction to Computer Graphics (3) *(this is already a required compulsory course)*
ITCS 4235 Game Engine Construction (3)

***Networking***

ITCS 3166 Introduction to Computer Networks (3)
A game-networking related course approved by the GDD Certificate Coordinator (3)

***Other***

A sequence of two related courses (generally from ITCS/ITIS at the 3000-level or above) approved by the GDD Certificate Coordinator.

### Certificate Total = 15-18 Credit Hours

### Progression Requirements

The certificate program requires all courses taken for the certificate to be passed at the C level or above, and a GPA in all certificate courses of 2.5 or above.

## Early Entry: Master of Science in Computer Science

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Minimum 3.3 GPA in the Department of Computer Science
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

### Progression Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 2.75 overall undergraduate GPA and 3.0 Junior/Senior GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

### Special Policies or Requirements

Up to 12 credit hours earned at the graduate level may be substituted for

required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees). The following are approved course substitutions for Early Entry into the M.S. in Computer Science program:

| Undergraduate Course | Graduate Substitutions |
|---|---|
| ITCS 3156 | ITCS 6156 |
| ITSC 4155 | ITCS 6112 |
| ITCS 4123 | ITCS 5123 |
| ITCS 4152 | ITCS 5152 |
| ITCS 4230 | ITCS 5230 |
| ITCS 4231 | ITCS 5231 |
| ITCS 4235 | ITCS 5235 |
| ITCS 4236 | ITCS 5236 |
| ITCS 4102 | ITCS 5102 |
| ITCS 4131 | ITCS 6166 |
| ITCS 4141 | ITCS 5141 |
| ITCS 4180 | ITCS 5180 |
| ITIS 4166 | ITIS 5166 |
| ITCS 4121 | ITCS 5121 |
| ITCS 4122 | ITCS 5122 |
| ITIS 4310 | ITIS 5510 |

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# Department of Cybersecurity

## Undergraduate Programs

- B.S. in Computer Science
  - Cybersecurity
- Early Entry: M.S. in Cybersecurity
- Early Entry: Graduate Certificate in Information Security and Privacy

The Department of Cybersecurity is dedicated to protecting the integrity, availability, privacy, and confidentiality of information in an increasingly interconnected world. As digital threats evolve in sophistication, the department focuses on developing proactive defense strategies, secure network architectures, operational technology defenses, and robust policy frameworks. The department equips professionals to safeguard critical infrastructure and defend against the attacks inherent in modern digital ecosystems.

The department offers degrees at the bachelor's, master's, and doctoral levels, as well as certificates. (See the UNC Charlotte Graduate Catalog for information on the M.S. and Ph.D. degrees.)

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

## Bachelor of Science in Computer Science *with Concentration in Cybersecurity*

This concentration is designed to best prepare students to match the diverse requirements of employers. It also prepares students to pursue graduate studies in computing and other related areas.

The B.S. in Computer Science program requires a common set of computer science courses, a set of courses within the concentration, as well as a set of elective courses outside the non-computer science discipline, satisfied by a second major, or a minor. Graduates from the B.S. program are expected to have knowledge and skill in computer

science plus elective coursework outside the discipline.

## Admission Requirements

### Freshmen

- See University Admission Requirements
- First-year admission is competitive, based upon an overall evaluation of the high school record.

### Transfers

- See University Admission Requirements
- *Minimum GPA:* 2.5
- *Pre-Major/Prerequisite Courses:* A grade of C or above is required in any previously attempted Computer Science course(s). Students must be able to transfer credits for the equivalent of College Algebra.

### Currently Enrolled Students

- *Minimum GPA:* 2.5
- Must have earned 12 or more hours at UNC Charlotte
- Must have earned a grade of C or higher in MATH 1241, or MATH 1120 (Note: Students coming in with MATH 1120 will still be required to take MATH 1241 for the Bachelor of Science program)
- Must have earned a grade of C or higher in ITSC 1212, or ITSC 1110, or DTSC 1302
- Participation in a Change of Major Workshop offered by the CCI Advising Center is required before becoming eligible to declare the Computer Science major. Details are on the CCI Advising website.

## Degree Requirements

### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information. Students majoring in Computer Science should plan on taking the following courses that meet both general education and major requirements:

MATH 1241 - Calculus I (3) *(fulfills Quantitative/Data requirement)*
MATH 1242 - Calculus II (3) *(fulfills Quantitative/Data requirement)*

### Major Courses (53 credit hours)

***Core Courses (29 credit hours)***

ITSC 1212 - Introduction to Computer Science I (4)
ITSC 1213 - Introduction to Computer Science II (4)
ITSC 1600 - Computing Professionals (2)
or ITSC 2600 - Computer Science Program, Identity, Career (2)
ITSC 2175 - Logic and Algorithms (3)
or MATH 1165 - Introduction to Discrete Structures (3)
ITSC 2181 - Introduction to Computer Systems (4)
ITSC 2214 - Data Structures and Algorithms (4)
ITSC 3146 - Introduction to Operating Systems and Networking (3)
ITSC 3155 - Software Engineering (3)
ITSC 3688 - Computing and AI: Ethics, Society & Communication (3)

***Mathematics and Statistics Courses (6 credit hours)***

MATH 2164 - Matrices and Linear Algebra (3)
STAT 2122 - Introduction to Probability and Statistics (3)

***Elective Courses in Other Disciplines (15 credit hours)***

Select 15 elective credit hours. Courses that count towards this requirement must have a discipline prefix other than ITSC, ITCS, or ITIS. This requirement can be fulfilled by pursuing a/an:

- Minor
- Second major
- Honors program
- Undergraduate certificate
- Set of courses selected by the student that do not satisfy any other degree requirement

***Capstone Course (3 credit hours)***

*Select one of the following:*
ITCS 4232 - Game Design and Development Studio (3)
ITIS 4390 - Interaction Design Projects (3)
ITIS 4246 - Competitive Cyber Defense (3)
ITSC 4155 - Software Development Projects (3)
ITSC 4681 - Senior Design I (3)
ITSC 4682 - Senior Design II (3)
ITSC 4750 - Honors Thesis (3)
ITSC 4850 - Senior Project I (3)
ITSC 4851 - Senior Project II (3)
ITSC 4990 - Undergraduate Research (3)
ITSC 4991 - Undergraduate Thesis (3)

### Concentration Courses (24 credit hours)

***Concentration Required Courses (21 credit hours)***

ITIS 3135 - Front-End Web Application Development (3)
ITIS 3200 - Introduction to Information Security and Privacy (3)
ITIS 3246 - IT Infrastructure and Security (3)
ITIS 4221 - Secure Programming and Penetration Testing (3)
ITIS 4250 - Computer Forensics (3)
ITIS 4260 - Introduction to Security Analytics (3)
or ITIS 4214 - Usable Security and Privacy (3)
or ITIS 4261 - Introduction to Secured Cloud Computing (3)
ITSC 3160 - Database Design and Implementation (3)

***Concentration Technical Elective Course (3 credit hours)***

Select one elective course from 3000- or 4000-level courses offered by the College of Computing and Informatics, excluding the courses listed above.

### Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements

- The GPA requirement for all Computer Science undergraduate degree programs is 2.0 or above in all courses applied to the degree and all courses in the major.
- Students have a limit of 3 attempts per course in the major (note that Financial Aid may not cover the third attempt). This applies to

all courses listed under the Major Courses and Concentration Courses categories of B.S. and B.A. in Computer Science degree programs. A Withdrawal does not count as an attempt, as that effort is already restricted via the Withdrawal limit.
- Students are required to achieve a grade of C or above in all Core Courses within the major, as listed above.

# Early Entry: Master of Science in Cybersecurity

Exceptional undergraduate students at UNC Charlotte may be accepted into the M.S. in Cybersecurity and begin work toward a graduate degree before completion of the baccalaureate degree.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Acceptable scores on the appropriate graduate standardized test (e.g., GRE)
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

## Progression Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA and a 3.0 Junior/Senior GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

## Special Policies or Requirements

Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for these degree programs, see the program listings in the *Graduate Catalog*.

# Early Entry: Graduate Certificate in Information Security and Privacy

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

All program-level Admissions and Progression Requirements are in addition to the University of North Carolina at Charlotte Admission Requirements.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Acceptable scores on the appropriate graduate standardized test (e.g., GRE)
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

## Progression Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

## Special Policies or Requirements

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the Graduate Catalog and the Graduate Admissions website.

For details about the full requirements for this degree program, see the program listing in the Graduate Catalog (University Catalogs).

# Department of Human-Centered Computing and Education

## Undergraduate Programs

- B.A. in Computer Science
  - Human-Computer Interaction
  - Information Technology
- Minor in Human-Centered Design
- Early Entry: Graduate Certificate in Human-Computer Interaction
- Early Entry: Graduate Certificate in Management of Information Technology
- Early Entry: M.S. in Information Technology

The Department of Human-Centered Computing and Education sits at the vital intersection of people and technology. Its mission is to design, implement, and evaluate computing systems that support human needs and enhance learning experiences. By prioritizing usability, accessibility, and the social impact of technology, the department ensures that digital tools are intuitive and empowering, fostering an environment where technology serves as a bridge to better communication and education.

The department offers degrees at the bachelor's, master's, and doctoral levels, as well as certificates. (See the UNC Charlotte Graduate Catalog for information on the M.S. and Ph.D. degrees.)

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

## Bachelor of Arts in Computer Science *with Concentration in Human-Computer Interaction*

The concentration in Human-Computer Interaction emphasizes the design, development, and implementation of interactive systems from a human-centric perspective. This concentration prepares students for a wide variety of jobs or graduate studies.

The B.A. in Computer Science program requires a compact set of a computer science core, a set of courses within the concentration, as well as a set of elective courses outside the computer science disciplines, satisfied by a second major, or a minor. Graduates from the B.A. program are expected to have knowledge and skills in computer science plus elective coursework outside the discipline. The emphasis in this program is less theoretical/mathematical, and more on the applied side of computing.

### Admission Requirements

**Freshmen**

- See University Admission Requirements
- First-year admission is competitive, based upon an overall evaluation of the high school record.

**Transfers**

- See University Admission Requirements
- *Minimum GPA:* 2.5
- *Pre-Major/Prerequisite Courses:* A grade of C or above is required in any previously attempted Computer Science course(s). Students must be able to transfer credits for the equivalent of College Algebra.

**Currently Enrolled Students**

- *Minimum GPA:* 2.5
- Must have earned 12 or more hours at UNC Charlotte
- Must have earned a grade of C or higher in MATH 1241, or MATH 1120 (Note: Students coming in with MATH 1120 will still be required to take MATH 1241 for the Bachelor of Science program)
- Must have earned a grade of C or higher in ITSC 1212, or ITSC 1110, or DTSC 1302
- Participation in a Change of Major Workshop offered by the CCI Advising Center is required before becoming eligible to declare the Computer Science major. Details are on the CCI Advising website.

### Degree Requirements

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information. Students majoring in Computer Science should plan on taking the following courses that meet both general education and major requirements:

MATH 1120 - Calculus (3) *(fulfills Quantitative/Data requirement)*
STAT 1222 - Introduction to Statistics (3) *(fulfills Quantitative/Data requirement)*

**Major Courses (40 credit hours)**

***Core Courses (19 credit hours)***

ITSC 1212 - Introduction to Computer Science I (4)
ITSC 1213 - Introduction to Computer Science II (4)
ITSC 1600 - Computing Professionals (2)
or ITSC 2600 - Computer Science Program, Identity, Career (2)
ITSC 2175 - Logic and Algorithms (3)
or MATH 1165 - Introduction to Discrete Structures (3)
ITSC 2214 - Data Structures and Algorithms (4)
ITSC 3688 - Computing and AI: Ethics, Society & Communication (3)

***Advanced Statistics Course (3 credit hours)***

STAT 2223 - Elements of Statistics II (3)

***Elective Courses in Other Disciplines (15 credit hours)***

Select 15 elective credit hours. Courses that count towards this requirement must have a discipline prefix other than ITSC, ITCS, or ITIS. This requirement can be fulfilled by pursuing a/an:

- Minor
- Second major
- Honors program
- Undergraduate certificate
- Set of courses selected by the student that do not satisfy any other degree requirement

***Capstone Course (3 credit hours)***
*Select one of the following:*
ITCS 4232 - Game Design and Development Studio (3)
ITIS 4390 - Interaction Design Projects (3)
ITIS 4246 - Competitive Cyber Defense (3)
ITSC 4155 - Software Development Projects (3)
ITSC 4681 - Senior Design I (3)
ITSC 4682 - Senior Design II (3)
ITSC 4750 - Honors Thesis (3)
ITSC 4850 - Senior Project I (3)
ITSC 4851 - Senior Project II (3)
ITSC 4990 - Undergraduate Research (3)
ITSC 4991 - Undergraduate Thesis (3)

**Concentration Courses (27 credit hours)**
***Concentration Core Courses (18 credit hours)***
ITIS 3130 - Introduction to Human-Centered Computing (3)
ITIS 3135 - Front-End Web Application Development (3)
ITIS 3140 - User Experience Methods (3)
ITIS 4350 - Design Prototyping (3)

***Elective Courses***
*Choose two courses from the following list:*
ITIS 3216 - Introduction to Cognitive Science (3)
ITIS 4214 - Usable Security and Privacy (3)
ITIS 4353 - Social Technology Design (3)
ITIS 4355 - Accessible Design and Implementation (3)
ITIS 4358 - Physical Computing (3)
ITIS 4360 - Human-Centered Artificial Intelligence (3)

***Concentration Technical Elective Courses (9 credit hours)***
Select three elective courses from 3000- or 4000-level courses offered by the College of Computing and Informatics, excluding the courses listed above.

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives). Select elective courses in consultation with advisor.

## Degree Total = 120 Credit Hours

## Progression Requirements
- The GPA requirement for all Computer Science undergraduate degree programs is 2.0 or above in all courses applied to the degree and all courses in the major.
- Students have a limit of 3 attempts per course in the major (note that Financial Aid may not cover the third attempt). This applies to all courses listed under the Major Courses and Concentration Courses categories of B.S. and B.A. in Computer Science degree programs. A Withdrawal does not count as an attempt, as that effort is already restricted via the Withdrawal limit.
- Students are required to achieve a grade of C or above in all Core Courses within the major, as listed above.

# Bachelor of Arts in Computer Science *with Concentration in Information Technology*

The Concentration in Information Technology emphasizes usability, security, and reliability of IT infrastructures, as well as writing and communication skills. This concentration prepares students for a wide variety of jobs or graduate studies.

The B.A. in Computer Science program requires a compact set of a computer science core, a set of courses within the concentration, as well as a set of elective courses outside the computer science disciplines, satisfied by a second major, or a minor. Graduates from the B.A. program are expected to have knowledge and skills in computer science plus elective coursework outside the discipline. The emphasis in this program is less theoretical/mathematical, and more on the applied side of computing.

## Admission Requirements
**Freshmen**
- See University Admission Requirements
- First-year admission is competitive, based upon an overall evaluation of the high school record.

**Transfers**
- See University Admission Requirements
- *Minimum GPA:* 2.5
- *Pre-Major/Prerequisite Courses:* A grade of C or above is required in any previously attempted Computer Science course(s). Students must be able to transfer credits for the equivalent of College Algebra.

**Currently Enrolled Students**
- *Minimum GPA:* 2.5
- Must have earned 12 or more hours at UNC Charlotte
- Must have earned a grade of C or higher in MATH 1241, or MATH 1120 (Note: Students coming in with MATH 1120 will still be required to take MATH 1241 for the Bachelor of Science program)
- Must have earned a grade of C or higher in ITSC 1212, or ITSC 1110, or DTSC 1302
- Participation in a Change of Major Workshop offered by the CCI Advising Center is required before becoming eligible to declare the Computer Science major. Details are on the CCI Advising website.

## Degree Requirements
**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information. Students majoring in Computer Science should plan on taking the

following courses that meet both general education and major requirements:

MATH 1120 - Calculus (3) *(fulfills Quantitative/Data requirement)*
STAT 1222 - Introduction to Statistics (3) *(fulfills Quantitative/Data requirement)*

**Major Courses (40 credit hours)**
***Core Courses (19 credit hours)***
ITSC 1212 - Introduction to Computer Science I (4)
ITSC 1213 - Introduction to Computer Science II (4)
ITSC 1600 - Computing Professionals (2)
or ITSC 2600 - Computer Science Program, Identity, Career (2)
ITSC 2175 - Logic and Algorithms (3)
or MATH 1165 - Introduction to Discrete Structures (3)
ITSC 2214 - Data Structures and Algorithms (4)
ITSC 3688 - Computing and AI: Ethics, Society & Communication (3)

***Advanced Statistics Course (3 credit hours)***
STAT 2223 - Elements of Statistics II (3)

***Elective Courses in Other Disciplines (15 credit hours)***
Select 15 elective credit hours. Courses that count towards this requirement must have a discipline prefix other than ITSC, ITCS, or ITIS. This requirement can be fulfilled by pursuing a/an:

- Minor
- Second major
- Honors program
- Undergraduate certificate
- Set of courses selected by the student that do not satisfy any other degree requirement

***Capstone Course (3 credit hours)***
*Select one of the following:*
ITCS 4232 - Game Design and Development Studio (3)
ITIS 4390 - Interaction Design Projects (3)
ITIS 4246 - Competitive Cyber Defense (3)
ITSC 4155 - Software Development Projects (3)
ITSC 4681 - Senior Design I (3)
ITSC 4682 - Senior Design II (3)
ITSC 4750 - Honors Thesis (3)
ITSC 4850 - Senior Project I (3)
ITSC 4851 - Senior Project II (3)
ITSC 4990 - Undergraduate Research (3)
ITSC 4991 - Undergraduate Thesis (3)

**Concentration Courses (33 credit hours)**
***Concentration Core Courses (15 credit hours)***
ITIS 3130 - Introduction to Human-Centered Computing (3)
ITIS 3135 - Front-End Web Application Development (3)
ITIS 3200 - Introduction to Information Security and Privacy (3)
ITIS 3300 - Software Requirements, Analysis and Testing (3)
ITSC 3160 - Database Design and Implementation (3)

***Concentration Technical Elective Courses (18 credit hours)***
Select six elective courses from 3000- or 4000-level courses offered by the College of Computing and Informatics, excluding the courses listed above.

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives). Select elective courses in consultation with advisor.

### Degree Total = 120 Credit Hours

### Progression Requirements

- The GPA requirement for all Computer Science undergraduate degree programs is 2.0 or above in all courses applied to the degree and all courses in the major.
- Students have a limit of 3 attempts per course in the major (note that Financial Aid may not cover the third attempt). This applies to all courses listed under the Major Courses and Concentration Courses categories of B.S. and B.A. in Computer Science degree programs. A Withdrawal does not count as an attempt, as that effort is already restricted via the Withdrawal limit.
- Students are required to achieve a grade of C or above in all Core Courses within the major, as listed above.

## Minor in Human-Centered Design

The Minor in Human-Centered Design provides students with the knowledge and skills in the application of human-centered design methods.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Minimum GPA: 2.0
- Students enrolled in a Computer Science major with a concentration other than Bioinformatics are not eligible to declare this minor.

### Minor Requirements

**Required Courses (9 credit hours)**

ITSC 1110 - Introduction to Computer Science Principles (3)
ITIS 3130 - Introduction to Human-Centered Computing (3)
ITIS 4350 - Design Prototyping (3)

**Elective Courses (6 credit hours)**

*Select two of the following:*
ITIS 3140 - User Experience Methods (3)
ITIS 4214 - Usable Security and Privacy (3)
ITIS 4353 - Social Technology Design (3)
ITIS 4355 - Accessible Design and Implementation (3)
ITIS 4358 - Physical Computing (3)
ITIS 4360 - Human-Centered Artificial Intelligence (3)
ITIS 4390 - Interaction Design Projects (3)
ITSC 3688 - Computing and AI: Ethics, Society & Communication (3)

### Progression Requirements

All courses must be completed with a grade of C or above.

### Minor Total = 15 Credit Hours

## Early Entry: Graduate Certificate in Human-Computer Interaction

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

All program-level Admissions and Progression Requirements are in addition to the University of North Carolina at Charlotte Admission Requirements.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Acceptable scores on the appropriate graduate standardized test (e.g., GRE)
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

### Progression Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

### Special Policies or Requirements

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the Graduate Catalog and the Graduate Admissions website.

For details about the full requirements for this degree program, see the program listing in the Graduate Catalog (University Catalogs).

## Early Entry: Graduate Certificate in Management of Information Technology

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

All program-level Admissions and Progression Requirements are in addition to the University of North Carolina at Charlotte Admission Requirements.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Acceptable scores on the appropriate graduate standardized test (e.g., GRE)
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

### Progression Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

### Special Policies or Requirements

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the Graduate Catalog and the Graduate Admissions website.

For details about the full requirements for this degree program, see the program listing in the Graduate Catalog (University Catalogs).

# Early Entry: Master of Science in Information Technology

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Minimum 3.3 GPA in the Department of Computer Science
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

## Progression Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 2.75 overall undergraduate GPA and 3.0 Junior/Senior GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

## Special Policies or Requirements

Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees). The following are approved course substitutions for Early Entry into the M.S. in Information Technology program:

| Graduate Level Substitutes | Undergraduate Course Equivalent |
|---|---|
| ITIS 5166 - Network-Based Application Development (3) | ITIS 4166 - Backend Application Development (3) |
| ITIS 5180 - Mobile Application Development (3) | ITIS 4180 - Mobile Application Development (3) |
| ITIS 5221 - Secure Programming and Penetration Testing (3) | ITIS 4221 - Secure Programming and Penetration Testing (3) |
| ITIS 5246 - Competitive Cyber Defense (3) | ITIS 4246 - Competitive Cyber Defense (3) |
| ITIS 5250 - Computer Forensics (3) | ITIS 4250 - Computer Forensics (3) |
| ITIS 5260 - Introduction to Security Analytics (3) | ITIS 4260 - Introduction to Security Analytics (3) |
| ITIS 6011 - Interaction Design Studio (3) | ITIS 4390 - Interaction Design Projects (3) |
| ITIS 5350 - Rapid Prototyping (3) | ITIS 4350 - Design Prototyping (3) |
| ITIS 6120 - Applied Databases (3) | ITSC 3160 - Database Design and Implementation (3) |
| ITIS 6200 - Principles of Information Security and Privacy (3) | ITIS 3200 - Introduction to Information Security and Privacy (3) |
| ITIS 6216 - Introduction to Cognitive Science (3) | ITIS 3216 - Introduction to Cognitive Science (3) |
| ITIS 6342 - Information Technology Project Management (3) | ITIS 3300 - Software Requirements, Analysis and Testing (3) |
| ITIS 6400 - Human-Centered Design (3) | ITIS 3130 - Introduction to Human-Centered Computing (3) |
| ITIS 6420 - Usable Security and Privacy (3) | ITIS 4214 - Usable Security and Privacy (3) |

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# Department of Machine Learning

## Undergraduate Programs

- B.S. in Artificial Intelligence
- B.S. in Computer Science
  - AI, Robotics, and Gaming
  - Data Science
- Minor in AI Systems Development
- Minor in Data Science
- Early Entry, M.S. in Artificial Intelligence
- Early Entry: Graduate Certificate in Artificial Intelligence Systems Development

The Department of Machine Learning drives the advancement of intelligent systems capable of learning from data and making autonomous decisions. By exploring the mathematical and algorithmic heart of artificial intelligence, the department pushes the boundaries of what computers can perceive and predict. From robotics to predictive analytics, the department focuses on creating transformative technologies that automate complex tasks and provide deep insights into massive datasets.

The department offers degrees at the bachelor's, master's, and doctoral levels, as well as certificates. (See the UNC Charlotte Graduate Catalog for information on the M.S. and Ph.D. degrees.)

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

## Bachelor of Science in Artificial Intelligence

The Bachelor of Science in Artificial Intelligence is designed for students aiming to build skills for a range of careers in AI and machine learning. Graduates with this degree will gain comprehensive training in core mathematics, computing, AI algorithms, the AI software lifecycle, and ethical considerations, while also building strong communication and teamwork abilities through practical, hands-on learning. The program offers built-in flexibility, allowing students to explore courses in other disciplines and apply AI across diverse fields.

### Admission Requirements

**Freshmen**

- See University Admission Requirements
- Minimum GPA: 2.5
- Admission is competitive for AI programs and, if admissible, freshmen must present a minimum SAT-Math score of 530 or ACT-Math subscore of 22.

**Transfers**

- Minimum GPA: 2.5
- Pre-Major/Prerequisite Courses: A grade of C or above is required in any previously attempted Computer Science course(s). Students must be able to transfer credits for the equivalent of College Algebra.
- Transferable Credit Hours: 24

**Currently Enrolled Students**

- Minimum GPA: 2.5
- Must have earned 12 or more hours at UNC Charlotte
- Must have earned a grade of C or higher in MATH 1241, or MATH 1120 (Note: Students coming in with MATH 1120 will still be required to take MATH 1241 for the Bachelor of Science program)
- Must have earned a grade of C or higher in ITSC 1212, or ITSC 1110, or DTSC 1302
- Participation in a Change of Major Workshop offered by the CCI Advising Center is required before becoming eligible to declare the AI major.

### Degree Requirements

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information. Students majoring in Computer Science should plan on taking the following courses that meet both general education and major requirements:

MATH 1241 - Calculus I (3) *(fulfills Quantitative/Data requirement)*

**Major Courses (67 credit hours)**

***Computing Courses (22 credit hours)***

ITSC 1212 - Introduction to Computer Science I (4)
ITSC 1213 - Introduction to Computer Science II (4)
ITSC 2175 - Logic and Algorithms (3)
ITSC 2181 - Introduction to Computer Systems (4)
ITSC 2214 - Data Structures and Algorithms (4)
ITSC 3155 - Software Engineering (3)

***Mathematics and Statistics Courses (6 credit hours)***

MATH 2112 - Mathematics for Computer Science (3)
Any MATH/STAT course

***Artificial Intelligence Required Courses (15 credit hours)***

ITAI 1600 - Artificial Intelligence Literacy for Professional Success (3)
ITAI 2153 - Introduction to Artificial Intelligence and Ethics (3)
ITAI 4160 - Databases and Cloud for Artificial Intelligence (3)
ITCS 3156 - Introduction to Machine Learning (3)
ITCS 4101 - Introduction to Natural Language Processing (3)
or ITCS 4152 - Introduction to Computer Vision (3)

***Artificial Intelligence Elective Courses (6 credit hours)***

Select **two** courses from the lists below. *The clusters are only to indicate sub-areas. The courses selected do not need to be within one category.*

***Machine Learning Cluster***

ITCS 4101 - Introduction to Natural Language Processing (3)

ITCS 4152 - Introduction to Computer Vision (3)

*Robotics and Decision-Making Cluster*
ITCS 4150 - Mobile Robotics (3)
ITCS 4151 - Intelligent Robotics (3)

*Human-AI Interaction Cluster*
ITCS 3216 - Introduction to Cognitive Science (3)
ITCS 4121 - Information Visualization (3)
ITCS 4122 - Visual Analytics (3)
ITCS 4123 - Visualization and Visual Communication (3)
ITIS 4353 - Social Technology Design (3)
ITIS 4360 - Human-Centered Artificial Intelligence (3)

*AI System Design Cluster*
ITAI 4153 - Introduction to Machine Learning Operations (3)
ITAI 4154 - AI-Driven Trustworthy Software Development (3)
ITCS 4145 - Parallel Programming (3)

*AI Security Cluster*
ITIS 4270 - Artificial Intelligence Risk Management (3)
ITIS 4271 - Secure and Trustworthy Artificial Intelligence (3)

**Elective Courses in Other Disciplines (15 credit hours)**
Select 15 elective credit hours. Courses that count towards this requirement must have a discipline prefix other than ITSC, ITCS, DTSC, ITIS, or ITAI. This requirement can be fulfilled by pursuing a/an:

- Minor
- Second major
- Honors program
- Undergraduate certificate
- Set of courses selected by the student that do not satisfy any other degree requirements

**Capstone Course (3 credit hours)**
ITAI 4153 - Introduction to Machine Learning Operations (3)
ITAI 4154 - AI-Driven Trustworthy Software Development (3)
ITAI 4155 - Artificial Intelligence Development Projects (3)
ITSC 4681 - Senior Design I (3)
ITSC 4682 - Senior Design II (3)
ITSC 4750 - Honors Thesis (3)
ITSC 4850 - Senior Project I (3)
ITSC 4851 - Senior Project II (3)
ITSC 4990 - Undergraduate Research (3)
ITSC 4991 - Undergraduate Thesis (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Progression Requirements

- The GPA requirement for the Artificial Intelligence undergraduate degree programs is 2.0 or above in all courses applied to the degree and all courses in the major.
- Students have a limit of 3 attempts per course in the major. This applies to all courses listed under the Major Courses of the B.S. in Artificial Intelligence degree program. A Withdrawal does not count as an attempt, as that effort is already restricted via the Withdrawal limit.
- Students are required to achieve a grade of C or above in all courses listed under the Computing Core Courses and Artificial Intelligence Required Courses categories in the Major.

## Degree Total = 120 Credit Hours

# Bachelor of Science in Computer Science *with Concentration in AI, Robotics, and Gaming*

This concentration is designed to best prepare students to match the diverse requirements of employers. It also prepares students to pursue graduate studies in computing and other related areas.

The B.S. in Computer Science program requires a common set of computer science courses, a set of courses within the concentration, as well as a set of elective courses outside the non-computer science discipline, satisfied by a second major, or a minor. Graduates from the B.S. program are expected to have knowledge and skill in computer science plus elective coursework outside the discipline.

## Admission Requirements

**Freshmen**

- See University Admission Requirements
- First-year admission is competitive, based upon an overall evaluation of the high school record.

**Transfers**

- See University Admission Requirements
- *Minimum GPA:* 2.5
- *Pre-Major/Prerequisite Courses:* A grade of C or above is required in any previously attempted Computer Science course(s). Students must be able to transfer credits for the equivalent of College Algebra.

**Currently Enrolled Students**

- *Minimum GPA:* 2.5
- Must have earned 12 or more hours at UNC Charlotte
- Must have earned a grade of C or higher in MATH 1241, or MATH 1120 (Note: Students coming in with MATH 1120 will still be required to take MATH 1241 for the Bachelor of Science program)
- Must have earned a grade of C or higher in ITSC 1212, or ITSC 1110, or DTSC 1302
- Participation in a Change of Major Workshop offered by the CCI Advising Center is required before becoming eligible to declare the Computer Science major. Details are on the CCI Advising website.

## Degree Requirements

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major

with departmental approval. Please see your advisor for information. Students majoring in Computer Science should plan on taking the following courses that meet both general education and major requirements:

MATH 1241 - Calculus I (3) *(fulfills Quantitative/Data requirement)*
MATH 1242 - Calculus II (3) *(fulfills Quantitative/Data requirement)*

**Major Courses (53 credit hours)**
***Core Courses (29 credit hours)***
ITSC 1212 - Introduction to Computer Science I (4)
ITSC 1213 - Introduction to Computer Science II (4)
ITSC 1600 - Computing Professionals (2)
or ITSC 2600 - Computer Science Program, Identity, Career (2)
ITSC 2175 - Logic and Algorithms (3)
or MATH 1165 - Introduction to Discrete Structures (3)
ITSC 2181 - Introduction to Computer Systems (4)
ITSC 2214 - Data Structures and Algorithms (4)
ITSC 3146 - Introduction to Operating Systems and Networking (3)
ITSC 3155 - Software Engineering (3)
ITSC 3688 - Computing and AI: Ethics, Society & Communication (3)

***Mathematics and Statistics Courses (6 credit hours)***
MATH 2164 - Matrices and Linear Algebra (3)
STAT 2122 - Introduction to Probability and Statistics (3)

***Capstone Course (3 credit hours)***
*Select one of the following:*
ITCS 4232 - Game Design and Development Studio (3)
ITIS 4390 - Interaction Design Projects (3)
ITIS 4246 - Competitive Cyber Defense (3)
ITSC 4155 - Software Development Projects (3)
ITSC 4681 - Senior Design I (3)
ITSC 4682 - Senior Design II (3)
ITSC 4750 - Honors Thesis (3)
ITSC 4850 - Senior Project I (3)
ITSC 4851 - Senior Project II (3)
ITSC 4990 - Undergraduate Research (3)
ITSC 4991 - Undergraduate Thesis (3)

*For this concentration, either of the courses below could also be used to satisfy the Capstone requirement:*
ITCS 4232 - Game Design and Development Studio (3)

***Elective Courses in Other Disciplines (15 credit hours)***
Select 15 elective credit hours. Courses that count towards this requirement must have a discipline prefix other than ITSC, ITCS, or ITIS. This requirement can be fulfilled by pursuing a/an:

- Minor
- Second major
- Honors program
- Undergraduate certificate
- Set of courses selected by the student that do not satisfy any other degree requirement

**Concentration Courses (21 credit hours)**
***Required Concentration Courses (3 credit hours)***
*Select one course from the list below:*
ITCS 3153 - Introduction to Artificial Intelligence (3)
ITCS 3156 - Introduction to Machine Learning (3)

***Concentration Elective Courses (12 credit hours)***
*Select any four courses from the list below:*
ITCS 3120 - Introduction to Interactive Computer Graphics (3)
ITCS 3153 - Introduction to Artificial Intelligence (3)
ITCS 3156 - Introduction to Machine Learning (3)
ITCS 4101 - Introduction to Natural Language Processing (3)
ITCS 4114 - Real World Algorithms (3)
ITCS 4123 - Visualization and Visual Communication (3)
ITCS 4124 - Advanced 3D Computer Graphics (3)
ITCS 4150 - Mobile Robotics (3)
ITCS 4151 - Intelligent Robotics (3)
ITCS 4152 – Introduction to Computer Vision (3)
ITCS 4230 - Introduction to Game Design and Development (3)
ITCS 4231 - Advanced Game Design and Development (3)

***Concentration Technical Elective Courses (6 credit hours)***
Select elective courses from the 3000- or 4000- levels of courses offered by the College of Computing and Informatics.

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

### Progression Requirements

- The GPA requirement for all Computer Science undergraduate degree programs is 2.0 or above in all courses applied to the degree and all courses in the major.
- Students have a limit of 3 attempts per course in the major (note that Financial Aid may not cover the third attempt). This applies to all courses listed under the Major Courses and Concentration Courses categories of B.S. and B.A. in Computer Science degree programs. A Withdrawal does not count as an attempt, as that effort is already restricted via the Withdrawal limit.
- Students are required to achieve a grade of C or above in all Core Courses within the major, as listed above.

## Bachelor of Science in Computer Science *with Concentration in Data Science*

This concentration is designed to best prepare students to match the diverse requirements of employers. It also prepares students to pursue graduate studies in computing and other related areas.

The B.S. in Computer Science program requires a common set of computer science courses, a set of courses within the concentration, as well as a set of elective courses outside the non-computer science discipline, satisfied by a second major, or a minor. Graduates from the B.S. program are expected to have knowledge and skill in computer science plus elective coursework outside the discipline.

## Admission Requirements

### Freshmen

- See University Admission Requirements
- First-year admission is competitive, based upon an overall evaluation of the high school record.

### Transfers

- See University Admission Requirements
- *Minimum GPA:* 2.5
- *Pre-Major/Prerequisite Courses:* A grade of C or above is required in any previously attempted Computer Science course(s). Students must be able to transfer credits for the equivalent of College Algebra.

### Currently Enrolled Students

- *Minimum GPA:* 2.5
- Must have earned 12 or more hours at UNC Charlotte
- Must have earned a grade of C or higher in MATH 1241, or MATH 1120 (Note: Students coming in with MATH 1120 will still be required to take MATH 1241 for the Bachelor of Science program)
- Must have earned a grade of C or higher in ITSC 1212, or ITSC 1110, or DTSC 1302
- Participation in a Change of Major Workshop offered by the CCI Advising Center is required before becoming eligible to declare the Computer Science major. Details are on the CCI Advising website.

## Degree Requirements

### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information. Students majoring in Computer Science should plan on taking the following courses that meet both general education and major requirements:

MATH 1241 - Calculus I (3) *(fulfills Quantitative/Data requirement)*
MATH 1242 - Calculus II (3) *(fulfills Quantitative/Data requirement)*

### Major Courses (53 credit hours)

#### *Core Courses (29 credit hours)*

ITSC 1212 - Introduction to Computer Science I (4)
ITSC 1213 - Introduction to Computer Science II (4)
ITSC 1600 - Computing Professionals (2)
or ITSC 2600 - Computer Science Program, Identity, Career (2)
ITSC 2175 - Logic and Algorithms (3)
or MATH 1165 - Introduction to Discrete Structures (3)
ITSC 2181 - Introduction to Computer Systems (4)
ITSC 2214 - Data Structures and Algorithms (4)
ITSC 3146 - Introduction to Operating Systems and Networking (3)
ITSC 3155 - Software Engineering (3)
ITSC 3688 - Computing and AI: Ethics, Society & Communication (3)

#### *Mathematics and Statistics Courses (6 credit hours)*

MATH 2164 - Matrices and Linear Algebra (3)
STAT 2122 - Introduction to Probability and Statistics (3)

#### *Capstone Course (3 credit hours)*

*Select one of the following:*

ITCS 4232 - Game Design and Development Studio (3)
ITIS 4390 - Interaction Design Projects (3)
ITIS 4246 - Competitive Cyber Defense (3)
ITSC 4155 - Software Development Projects (3)
ITSC 4681 - Senior Design I (3)
ITSC 4682 - Senior Design II (3)
ITSC 4750 - Honors Thesis (3)
ITSC 4850 - Senior Project I (3)
ITSC 4851 - Senior Project II (3)
ITSC 4990 - Undergraduate Research (3)
ITSC 4991 - Undergraduate Thesis (3)

#### *Elective Courses in Other Disciplines (15 credit hours)*

Select 15 elective credit hours. Courses that count towards this requirement must have a discipline prefix other than ITSC, ITCS, or ITIS. This requirement can be fulfilled by pursuing a/an:

- Minor
- Second major
- Honors program
- Undergraduate certificate
- Set of courses selected by the student that do not satisfy any other degree requirement

### Concentration Courses (21 credit hours)

#### *Required Concentration Courses (6 credit hours)*

ITCS 3162 - Introduction to Data Mining (3)
ITSC 3160 - Database Design and Implementation (3)

#### *Concentration Elective Courses (12 credit hours)*

*Select any three courses from the list below:*
ITCS 3156 - Introduction to Machine Learning (3)
ITCS 3190 – Introduction to Cloud Computing for Data Analysis (3)
ITCS 3216 - Introduction to Cognitive Science (3)
ITCS 4114 - Real World Algorithms (3)
ITCS 4121 - Information Visualization (3)
ITCS 4122 - Visual Analytics (3)
ITCS 4152 – Introduction to Computer Vision (3)
INFO 3236 - Business Analytics (3)
ITIS 4310 - Web Mining (3)

#### *Concentration Technical Elective Courses (6 credit hours)*

Select elective courses from the 3000- or 4000- levels of courses offered by the College of Computing and Informatics.

### Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements

- The GPA requirement for all Computer Science undergraduate degree programs is 2.0 or above in all courses applied to the degree and all courses in the major.

- Students have a limit of 3 attempts per course in the major (note that Financial Aid may not cover the third attempt). This applies to all courses listed under the Major Courses and Concentration Courses categories of B.S. and B.A. in Computer Science degree programs. A Withdrawal does not count as an attempt, as that effort is already restricted via the Withdrawal limit.
- Students are required to achieve a grade of C or above in all Core Courses within the major, as listed above.

# Minor in AI Systems Development

The Minor in AI Systems Development is designed for non-Computer Science majors to have significant exposure in fundamentals of computer science and the modern technical area of artificial intelligence, which can provide valuable knowledge and skill in the development of students' majors and for the job market.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- *Minimum GPA*: 2.0
- Students enrolled in a Computer Science major with a concentration other than Bioinformatics are not eligible to declare this minor.
- Students must have a background in mathematics and have completed one of the following courses:

  MATH 1100 - College Algebra (3)
  or MATH 1101 - College Algebra with Workshop (4)
  MATH 1103 - Precalculus Mathematics for Science and Engineering (3)
  MATH 1120 - Calculus (3)
  MATH 1241 - Calculus I (3)

## Minor Requirements

The minor requires a minimum of 17 credit hours.

**Programming Courses (8 credit hours)**
ITSC 1212 - Introduction to Computer Science I (4)
ITSC 1213 - Introduction to Computer Science II (4)

**AI Courses (6 credit hours)**
HCAI 1100 - AI Fundamentals and Literacy for All (3)
ITCS 3153 - Introduction to Artificial Intelligence (3)
ITAI 2153 - Introduction to Artificial Intelligence and Ethics (3)

**Capstone/Project Course (3 credit hours)**
*Select one of the following:*
ITAI 3155 - Artificial Intelligence Systems Projects (3)

## Minor Total = 17 Credit Hours

## Progression Requirements

Students must receive a grade of C or above in all courses toward the minor.

# Minor in Data Science

The Minor in Data Science is designed for non-Computer Science majors to have significant exposure in fundamentals of computer science and the modern technical area of data science, which can provide valuable knowledge and skill in the development of students' majors and for the job market.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- *Minimum GPA*: 2.0
- Students enrolled in a Computer Science major with a concentration other than Bioinformatics are not eligible to declare this minor.
- Students must have a background in mathematics and have completed one of the following courses:

  - MATH 1100 - College Algebra (3)
    or MATH 1101 - College Algebra with Workshop (4)
  - MATH 1103 - Precalculus Mathematics for Science and Engineering (3)
  - MATH 1120 - Calculus (3)
  - MATH 1241 - Calculus I (3)

## Minor Requirements

The minor requires a minimum of 17 credit hours.

**Core Courses (12 credit hours)**
ITSC 1212 - Introduction to Computer Science I (4)
ITSC 1213 - Introduction to Computer Science II (4)
ITSC 2214 - Data Structures and Algorithms (4)

**Elective Concentration Courses (6 credit hours)**
*Select two of the following:*
ITCS 3162 - Introduction to Data Mining (3)
ITCS 3190 – Introduction to Cloud Computing for Data Analysis (3)
ITSC 3160 - Database Design and Implementation (3)

## Minor Total = 18 Credit Hours

## Progression Requirements

Students must receive a grade of C or above in all courses toward the minor.

# Early Entry: M.S. in Artificial Intelligence

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

## Admission Requirements

- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Submit application online at mygradschool.uncc.edu and provide

supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

### Progression Requirements
- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree.

### Special Policies or Requirements
Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the Graduate Catalog and the Graduate Admissions website.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog* (University Catalogs).

## Early Entry: Graduate Certificate in Artificial Intelligence Systems Development
Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

### Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Minimum 3.3 GPA in the Department of Computer Science
- Submit application online at: https://gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director (GPD) and approved by the Graduate School. Generally, the GPD is going to require the following before recommending a candidate to the Early Entry Program:
    - **Math Requirement:**
        - Calculus (3 hours)
        - Linear Algebra or Statistics
        - Discrete Mathematics (MATH 1165 or ITSC 2175)
    - **Computer Science Requirement:**
        - Introductory Computer Science Courses (ITSC 1212 and ITSC 1213)
        - Data Structures (ITSC 2214)
        - Candidate has taken at least one 3000 level course or above in ITSC, ITCS, or ITIS

### Progression Requirements
- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester (see FAQ item 'How does "double counting" work in the Early Entry Program').
- Maintain a minimum 2.75 overall undergraduate GPA and 3.0 Junior/Senior GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

### Special Policies or Requirements
This Early Entry Program is also accelerated; up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours. In other words, up to 12 credit hours of graduate coursework may be "double counted" toward both the undergraduate and graduate degrees. Approved course substitutions for Early Entry are listed below:

| Undergraduate Course | Graduate Substitution |
|---|---|
| ITCS 3153 Intro to Artificial Intelligence | ITCS 5153 Applied Artificial Intelligence |
| ITCS 3156 Intro to Machine Learning | ITCS 5356 Intro to Machine Learning |
| ITCS 4101 Introduction to Natural Language Processing | ITCS 6101 Natural Language Processing |
| ITCS 4121 Information Visualization | ITCS 6121 Information Visualization |
| ITCS 4122 Visual Analytics | ITCS 5122 Visual Analytics |
| ITCS 4123 Visualization and Visual Communications | ITCS 5123 Visualization and Visual Communications |
| ITCS 4145 Parallel Computing | ITCS 6145 Parallel Computing |
| ITCS 4150 Mobile Robotics | ITCS 5150 Mobile Robotics |
| ITCS 4152 Computer Vision | ITCS 6159 Computer Vision |

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# School of Data Science

## Undergraduate Programs

- B.S. in Data Science
- B.S. in Sports Analytics
- Undergraduate Certificate in Sports Analytics *(See College of Health and Human Services)*
- Early Entry: M.S. or Graduate Certificate in Data Science and Business Analytics
- Early Entry: Graduate Certificate in Data Science and Business Analytics
- Early Entry: M.S. in Health Informatics and Analytics
- Early Entry: Graduate Certificate in Health Informatics and Analytics
- Early Entry: Master of Science and Graduate Certificate in Health Informatics and Analytics

The School of Data Science at UNC Charlotte stands as the first of its kind in the Carolinas, serving as an interdisciplinary hub that bridges the gap between complex data analysis and real-world application. As a unique collaboration among several colleges, the School provides a multidisciplinary environment where students master the intersection of statistics, computer science, and domain-specific expertise. The curriculum emphasizes ethically grounded data practices and equips students to transform vast amounts of information into actionable insights across diverse sectors such as finance, healthcare, and sports analytics. The School prepares the next generation of data-driven problem solvers to address the most significant technical and societal challenges of the twenty-first century.

The school offers degrees at the bachelor's, master's, and doctoral levels, as well as certificates. (See the UNC Charlotte Graduate Catalog for information on the M.S. and Ph.D. degrees.)

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

## Bachelor of Science in Data Science

The B.S. in Data Science is recommended for students interested in developing competencies that will prepare them for careers in "big data" analytics. Graduates with bachelor's degrees in Data Science will be equipped to operate the systems on which analyses are run, prepare data for analysis, and visualize information.

Students in the program progressively develop mathematical skills, computational and statistical thinking, and data modeling needed to manipulate and interrogate data, define and solve problems. A major focus of the degree is developing communications skills, teamwork, and ethical awareness so that students can apply data science techniques in the context of particular domain applications. These competencies prepare graduates for careers in a broad range of fields where the ability to understand and use data, so called "data acumen," is critical. Students in the B.S. in Data Science program are encouraged to complete a minor or certificate that enhances their data science skills and/or domain expertise.

### Admission Requirements

**Freshmen**

- Students who meet the University's admission requirements are admissible to the major.
- See University Admission Requirements

**Transfers**

- Students who meet the University's admission requirements are admissible to the major.
- See University Admission Requirements

**Currently Enrolled Students**

Students transferring from within UNC Charlotte must have a cumulative GPA of 2.0.

### Degree Requirements

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

Out of 31-32 credit hours, 15 credit hours are double-counted for major courses. Successful completion of DTSC 1302 satisfies the General Education requirement for Inquiry in the Sciences - Social Sciences.

**Major Courses (55 credit hours)**

***Data Science Core Courses (18 credit hours)***

Each of the Data Science Studio courses is taught as a semester long 6-credit hour course; however, for registration purposes, each studio is broken into two separate classes that are taught in the A and B sessions of a semester.

DTSC 1301 - Data and Society A (3)
DTSC 1302 - Data and Society B (3)
DTSC 2301 - Modeling and Society A (3)
DTSC 2302 - Modeling and Society B (3)
DTSC 3601 - Predictive Analytics and Their Implications A (3)
DTSC 3602 - Predictive Analytics and Their Implications B (3)

***Mathematics and Statistics Courses (15 credit hours)***

MATH 1120 - Calculus (3)
  or MATH 1241 - Calculus I (3)
STAT 1220 - Elements of Statistics I (BUSN) (3)
  or STAT 1221 - Elements of Statistics I (3)
  or STAT 1222 - Introduction to Statistics (3)
MATH 2164 - Matrices and Linear Algebra (3)
STAT 2223 - Elements of Statistics II (3)
STAT 3160 - Applied Multivariate Analysis (3)

***Computing Core Courses (16 credit hours)***

ITSC 1213 - Introduction to Computer Science II (4)
ITSC 2175 - Logic and Algorithms (3)
or MATH 1165 - Introduction to Discrete Structures (3)
ITSC 2214 - Data Structures and Algorithms (4)
ITCS 3162 - Introduction to Data Mining (3)
ITSC 3160 - Database Design and Implementation (3)

*Capstone Courses (6 credit hours)*
DTSC 4301 - Data Science for Social Good A (3)
DTSC 4302 - Data Science for Social Good B (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

### Progression Requirements
The minimum GPA requirement for B.S. in Data Science is 2.0 in each of the following three categories: (1) all courses applied to the degree, (2) all courses in the major, and (3) all upper-division courses in the major.

Students have a limit of 2 attempts per course in the major (plus 1 more by petition). This applies to all core courses (Data Science, Computing and Informatics, and Mathematics and Statistics). The third attempt at a course can only be approved by petition. In addition, a Withdrawal does not count as an attempt, as that effort is already restricted via the Withdrawal limit.

## Bachelor of Science in Sports Analytics
The B.S. in Sports Analytics is recommended for students interested in developing skills to prepare them for careers in human performance data analytics. Graduates with Bachelor's degrees in Sports Analytics will be equipped to operate wearable technology, prepare data for analysis, and visualize information to make informed decisions regarding human performance.

Students in the program will progressively develop mathematical skills, computational and statistical thinking, and data modeling needed to understand data, identify and solve problems. A primary focus of the degree is developing critical thinking and communication skills that will allow students to work as part of an interdisciplinary team of sports data analysts.

All program-level Admissions and Progression Requirements are in addition to the University of North Carolina at Charlotte Admission Requirements.

### Admission Requirements
**Freshmen**
- Students who meet the university's admissions requirements are eligible for admission to the major.
- See University Admission Requirements.

**Transfers**
- Students who meet the university's admissions requirements are eligible for admission to the major.
- See University Admission Requirements.

**Currently Enrolled Students**
- Students transferring from within the university must have a cumulative GPA of 2.0.

### Degree Requirements
**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Requirements. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

### Major Courses (60 credit hours)
*Sports Analytics Core (25 credit hours)*
DTSC 1301 - Data and Society A (3)
DTSC 1302 - Data and Society B (3)
DTSC 2301 - Modeling and Society A (3)
DTSC 2302 - Modeling and Society B (3)
DTSC 3400 - Data Science Practicum (1 to 3) *(must be taken for 3 credits)*
or EXER 3900 - Undergraduate Research (1 to 3) *(must be taken for 3 credits)*
or SPOA 3400 - Sports Analytics Practicum (1 to 3) *(must be taken for 3 credits)*
or SPOA 3800 - Independent Study in Sports Analytics (1 to 3) *(must be taken for 3 credits)*
DTSC 3601 - Predictive Analytics and Their Implications A (3)
DTSC 3602 - Predictive Analytics and Their Implications B (3)
SPOA 1110 - Sports Analytics (3)

*Math/Statistics Core (9 credit hours)*
MATH 1120 - Calculus (3)
or MATH 1241 - Calculus I (3)
STAT 1220 - Elements of Statistics I (BUSN) (3)
or STAT 1221 - Elements of Statistics I (3)
or STAT 1222 - Introduction to Statistics (3)
or STAT 2122 - Introduction to Probability and Statistics (3)
STAT 2223 - Elements of Statistics II (3)

*Programming and Algorithms Courses (11 credit hours)*
ITSC 1213 - Introduction to Computer Science II (4)
ITSC 2214 - Data Structures and Algorithms (4)
ITSC 3160 - Database Design and Implementation (3)

*Exercise Science Courses (6 credit hours)*
SPOA 1120 - Factors of Human Performance (3)
SPOA 2120 - Applied Kinesiology for Human Performance (3)

*Sports Analytics Capstone (3 credit hours)*
SPOA 4120 - Modeling of Human Performance (3)

*Sports Analytics Elective Courses (6 credit hours)*

*Take two of the following:*
SPOA 2110 - Sport Business Analytics (3)
SPOA 2130 - Introduction to Baseball Statistics (3)
SPOA 4001 - Advanced Topics in American Football Analytics (3)
SPOA 4210 - Advanced Baseball Analytics (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

### Progression Requirements
The minimum GPA requirement for B.S. in Sports Analytics is 2.0 in each of the following three categories: (1) all courses applied to the degree, (2) all courses in the major, and (3) all upper division courses in the major.

Students have a limit of 2 attempts per course in the major (plus 1 more by petition). This applies to all core courses (Sports Analytics, Computing and Informatics, Mathematics and Statistics, and Exercise Science). The third attempt at a course can only be approved by petition. In addition, a Withdrawal does not count as an attempt, as that effort is already restricted via the Withdrawal limit.

## Undergraduate Certificate in Sports Analytics
The Undergraduate Certificate in Sports Analytics is open to students who are interested in applying data analysis and collection strategies within the field of sports. The purpose of the certificate is to allow the students to gain knowledge and pursue a path in the sports analytics field along with their existing major.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

To be eligible for admission to the certificate program, students must have completed the following:

- Statistics Course - STAT 1220, STAT 1221, or STAT 1222 with grade of C or above
- Basic Programming Course - INFO 2130, INFO 3221, or ITSC 1110 with grade of C or above

Other courses may be accepted upon review. Students from all majors on campus are welcome to apply for admission.

### Certificate Requirements
**Analytics Courses (10 credit hours)**
SPOA 1110 - Sports Analytics (3)
or SPOA 3300 - Sports Analytics Internship Preparation (1)
DTSC 3400 - Data Science Practicum (1 to 3)
or EXER 3900 - Undergraduate Research (1 to 3) *(must be taken for 3 credit hours)*
or SPOA 3400 - Sports Analytics Practicum (1 to 3)
or SPOA 3800 - Independent Study in Sports Analytics (1 to 3) *(must be taken for 3 credits)*
EXER 4115 - Undergraduate Research Methods in Applied Physiology, Health, and Clinical Sciences (3)

**Elective Course (3 credit hours)**
*Select one of the following:*
SPOA 2110 - Sport Business Analytics (3)
EXER 2333 - Baseball Through History and Playing I (1800s-1947) (3)
EXER 2334 - Baseball Through History and Playing II (1947-Present) (3)
SPOA 2130 - Introduction to Baseball Statistics (3)
SPOA 4210 - Advanced Baseball Analytics (3)
SPOA 4001 - Advanced Topics in American Football Analytics (3)

### Certificate Total = 13 Credit Hours

### Progression Requirements
All courses in the certificate program require a grade of C or above.

## Early Entry: M.S. or Graduate Certificate in Data Science and Business Analytics
Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA and 3.2 GPA in the major
- Submit application online at mygradschool.charlotte.edu and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School
- Test scores from the GRE are NOT required of Early Entry applicants to the Data Science and Business Analytics program. Applicants must submit all other elements of a standard graduate application to the program.

### Progression Requirements
- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate

degree. A maximum of 12 credit hours may double count.

### Special Policies or Requirements

Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

## Accelerated Master's Program

### *(for High School Seniors and UNC Charlotte Undergraduate Freshmen)*

Academically talented high school seniors and UNC Charlotte undergraduate freshmen are encouraged to apply to an Accelerated Master's Program to begin work toward both undergraduate and graduate degrees in their Freshman year.

### Admission Requirements

- See University Admission Requirements
- Minimum high school GPA of 3.75 (on a 4.0 scale)
- Minimum score of 1220 on SAT

### Progression Requirements

Students must maintain a strong academic record at both the undergraduate and graduate levels with a cumulative undergraduate GPA of 3.2 or higher and a cumulative graduate GPA of 3.0 or higher. Students accepted into the Accelerated master's program are subject to the same policies that pertain to other matriculated graduate students.

### Special Policies or Requirements

Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on the Accelerated Master's Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/accelerated-masters.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

## Early Entry: Master of Science in Health Informatics and Analytics

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum overall undergraduate GPA of 3.2
- Submit application online at mygradschool.charlotte.edu and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School
- Test scores from the GRE are NOT required of Early Entry applicants to the Health Informatics and Analytics program. Applicants must submit all other elements of a standard graduate application to the program.

### Progression Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree.

### Special Policies or Requirements

Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# Early Entry: Graduate Certificate in Health Informatics and Analytics

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate certificate before completion of the baccalaureate degree.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Submit application online at mygradschool.charlotte.edu and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School
- Test scores from the GRE are NOT required of Early Entry applicants to the Health Informatics and Analytics program. Applicants must submit all other elements of a standard graduate application to the program.

## Progression Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree.

## Special Policies or Requirements

Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# Early Entry: Master of Science and Graduate Certificate in Health Informatics and Analytics

For details, see the College of Health and Human Services section of this *Catalog* under the "Department of Epidemiology and Community Health" heading.

# Cato College of Education

# College of Education

education.charlotte.edu

The mission of the Cato College of Education at UNC Charlotte is to prepare highly effective and ethical professionals who have a positive impact on children, youth, families, community, and schools and who are successful in urban and other diverse settings. This mission is accomplished through teaching, research, and community engagement that lead to improved practice and by working in partnership with schools, communities, and university colleagues.

The College of Education consists of these departments:

- **Department of Counseling**
- **Department of Educational Leadership**
- **Department of Middle, Secondary, and K-12 Education**
- **Department of Reading and Elementary Education**
- **Department of Special Education and Child Development**

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

## Degree Programs

### Majors

- Early Childhood Education and Intervention: (Birth-Kindergarten licensure)
- Elementary Education (grades K-6 licensure)
- Middle Grades Education (grades 6-9 licensure)
- Special Education: General Curriculum (grades K-12 licensure)
- Special Education: Adapted Curriculum (grades K-12 licensure)
- Special Education and Elementary Education (grades K-6 licensure) *(Dual Major)*

### Minors

- Applied Understandings in Global Education
- Civic Engagement and Youth Leadership (non-licensure)
- Collaborative Educators in Inclusive Schools (non-licensure)
- Early Childhood Education and Intervention (non-licensure)
- Foreign Language Education (grades K-12 licensure)*
- Inclusion, Disability, and Exceptionalities in American Society (non-licensure)
- Reading Education (grades K-12 licensure)**
- Secondary Education (grades 9-12 licensure)***
- Teaching English as a Second Language (grades K-12 licensure)**

### Graduate Early Entry Programs

- Academically or Intellectually Gifted, Graduate Certificate, Early Entry
- Elementary Education, M.Ed., Early Entry
- Elementary Mathematics Education, Graduate Certificate, Early Entry
- Foreign Language Education, Graduate Certificate, Early Entry
- Learning, Design, and Technology, Online Learning and Teaching Concentration, Graduate Certificate, Early Entry
- Learning, Design, and Technology, Online Learning and Teaching Concentration, M.Ed., Early Entry
- Learning, Design, and Technology, Training and Development Concentration, Graduate Certificate, Early Entry
- Learning, Design, and Technology, Training and Development Concentration, M.Ed., Early Entry
- Reading Education, M.Ed., Early Entry
- Special Education and Child Development, Child and Family Studies Concentration, M.Ed., Early Entry
- Teaching: Middle and Secondary Education, Graduate Certificate, Early Entry

**The Minor in Foreign Language Education, offered in collaboration with the Department of Languages and Culture Studies in the College of Humanities & Earth and Social Sciences, leads to teacher licensure in one of the following areas (grades K-12):*

- *French*
- *German*
- *Japanese*
- *Spanish*

***The Reading Education and Teaching English as a Second Language license can only be added to another licensure area.*

***The Minor in Secondary Education, offered in collaboration with appropriate departments in the College of Humanities & Earth and Social Sciences, leads to licensure to teach in one of the following areas of Secondary Education (grades 9-12):*

- *Biology*
- *Chemistry*
- *English*
- *Environmental Studies*
- *Mathematics*
- *Physics*
- *Political Science*

*In collaboration with the College of Arts + Architecture, the Cato College of Education offers professional education coursework that leads to licensure to teach in one of the following areas (grades K-12):*

- *Art*
- *Dance*
- *Music*
- *Theatre*

### Accreditation

See the "Academic Programs" section of this Catalog for details about program accreditation.

### Program Responsibilities

The Cato College of Education has these undergraduate program responsibilities:

- To develop, deliver, and evaluate high quality undergraduate programs that prepare teachers and other professional personnel for schools and related agencies.
- To operate programs that meet the standards of external governing, licensing, and accrediting agencies.
- To address the culturally diverse educational needs of its particular region.
- To initiate and support activities in global perspectives of its faculty and students.
- To respond effectively to the problems and needs of children, their families, and professionals in schools and related agencies.

### Program Values

The Cato College of Education holds these program values:

- *We are a community of scholars* who are committed individually and collectively to creating learning opportunities and environments where we enhance the capacity of our students to have a positive impact on children, youth, communities, families and schools. We are committed to meeting the developmental and educational needs of our students and to maximize the growth, development, and learning of each individual.
- *In our programs of study,* we are committed to high quality programs that are standards-based, to the ongoing assessment of candidates and programs for the purpose of continuous improvement, to collaboration and outreach, and to the highest standards of professional practice and scholarship. We are committed to international understanding and involvement.
- *In fulfilling our professional roles,* we are committed to the generation, dissemination, and application of knowledge. We, therefore, expect that faculty will be teacher-scholars and that they will maintain a balanced commitment to teaching, research, and service. We have a strong commitment to academic excellence and exceptional quality in all that we do.
- *In our dealings with each other, our students, and our professional colleagues in schools and communities,* we are committed to valuing the unique contributions of each individual. We are committed to thoughtfulness, reflection, flexibility, and the exploration of new ideas. We are committed to openness, honesty, forthrightness, and the highest standards of integrity and ethical behavior. We strive to be collegial, collaborative, human, and respectful of others, even when we are not in total agreement with their views or with their work, and we are committed to being sensitive to and supportive of others, including students, staff, faculty, and our professional colleagues in the community.

### Conceptual Framework

Professional Educators: Advancing Educational Equity through Excellence and Engagement, the Conceptual Framework for Professional Education Programs at UNC Charlotte, has a strong emphasis on the Cato College of Education's updated vision to be a national leader in educational equity, excellence, and engagement. During coursework, early field experiences, and clinical practice candidates have multiple opportunities to develop the knowledge, skills, and dispositions necessary to produce highly effective and engaged professionals. Our programs seek to develop the proficiencies that are indicated below:

- Professional Responsibilities
  - Ethics
  - Professional Identify and Continuous Growth
  - Leadership
  - Collaboration
  - Policies, Laws, Standards, and Issues
- Dispositions
  - Advocacy
  - Self-Awareness

- Reflective Practice
- Social Justice

- Learners and Learning
  - Positive Impact and Accountability
  - Cultural Competence and Culturally Sustaining Practice
  - 21st Century Literacies, Competencies, and Character Qualities
- Effective Pedagogy
  - Specialty Area Knowledge
  - Pedagogical Knowledge
  - Research-Based Practice
  - Research Skills

# Honors in Education

The Education Honors Program recruits and supports undergraduate education majors and minors who are interested in enrichment opportunities to supplement their curriculum requirements. These students have the potential and motivation for in-depth academic engagement, leadership, critical reflection, and/or creativity within the education field. The program is designed to cultivate an inclusive community, and students' sense of belonging, reflection, connectedness in inquiry, and leadership/advocacy. Students engage in a self-selected, inquiry-based project that will deepen their knowledge and prepare them to be inquirers/leaders/advocates in their respective field of education.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

Admission to the Honors in Education program requires the following:

1) See University Admission Requirements
2) Declared major or minor in education within the Cato College of Education
3) Admission to a teacher education or licensure program with a minimum 3.00 cumulative GPA is preferred. If a promising student does not yet meet the GPA requirement, but has the potential for high task commitment, achievement, and/or creativity in any area of study, research, leadership, or service, the Honors Committee will consider the student's application on a case-by-case basis. The student AND the academic advisor/faculty member should explain how the student will be able to handle the rigors of the Education Honors Program in the application and approval forms.
4) Completion of 15 credit hours of coursework (including EDUC 1100 or EDUC 1511 or MDSK 2100) prior to application for the Honors in Education Program
5) Completed application form and recommendation by academic advisor and/or faculty member
6) A one-page statement explaining:
   a) The candidate's academic/career goals in the field of education
   b) How the Honors in Education program is relevant to the candidate's academic and/or career interests

It is recommended that before applying to the Honors in Education program, candidates should meet with their academic advisors and/or Co-Program Director of the Education Honors Committee to discuss their interest, motivation, and academic plan of study.

## Course Requirements

**Required Courses (6 credit hours)**

EDUC 3789 - Seminar: Honors in Education (3)
RSCH 4101 - Education Research Methods (3)

**Capstone Course (3 credit hours)**

*Select one of the following:*
CUYC 3600 - Community Engagement Capstone Seminar (3) (SL)
EDUC 3790 - Honors Thesis in Education (3)
EDUC 4201 - Education and Globalization: Theory and Practice Seminar (3)

## Progression Requirements

- RSCH 4101 is a prerequisite for EDUC 3789
- EDUC 3789 and RSCH 4101 must be completed with a grade of A or B prior to taking the last course in the Education Honors Program
- CUYC 3600, EDUC 3790, or EDUC 4201 must be completed with a grade of A
- To qualify for graduation with honors recognition, a student must, at a minimum, have at least a 3.2 GPA for all honors courses in their honors program and have an overall GPA of 3.0 at graduation to earn the distinction of Education Honors.

## Admission to Upper Division

University Honors Program (UHP) students may elect to transfer to the Education Honors Program, which is a disciplinary-level program. For more details about the UHP transfer options please see the Education Honors Program website: https://honorseducation.charlotte.edu/uhp-transfer-options.

### Special Policies or Requirements

- Honors students have the potential and motivation for more in-depth academic engagement, leadership, critical reflection, and/or creativity. Potential Education Honors students may exhibit a need for enrichment in any area of study (e.g., elementary, middle grades, high school), research (e.g., quantitative, qualitative, mixed-methods), leadership/advocacy (e.g., equitable educational opportunities for minoritized groups of students), or local/global engagement (e.g., civic engagement, study abroad, service).
- Be formally admitted to the Honors in Education program
- Choose one Honors track: Research Thesis, Service/Experiential Learning, or Study Abroad (requires candidate to complete a study abroad or equivalent domestic experience)
- Submit a written proposal for a self-selected inquiry project to the Honors Project Review Committee
- Disseminate a product to an authentic audience, including the Honors Project Review Committee (research advisor, reader, and any invited guests)
- File for honors candidacy with the Education Honors Committee and the Honors College in accordance with guidelines set by the Honors Council and the College of Education

## Teacher Education Policies and Procedures

#### Admission to Teacher Education Programs

See the specific degree program for admission requirements. Information about additional requirements and procedures may be obtained in the Office of Teacher Education Advising and Licensure (TEAL) in the Cato College of Education. Students in Art, Dance, Music, or Theatre should contact the Arts Education Specialist for specific admission requirements in their major department.

#### Professional Dispositions

Professional dispositions are consistent patterns of behavior or habits that may impact teaching effectiveness. At the time of entry to the program, all students are asked to sign a dispositions statement that fully identifies and describes behavior patterns that are appropriate and inappropriate in professional conduct. Education students are expected to demonstrate positive professional dispositions in all of their University activities (courses, clinicals, etc.).

#### Retention in Teacher Education Programs

There are three minimum requirements for retention in a teacher education program:

1.) A grade of C or above (a) in all professional education courses *and* (b) in all courses in the student's area of teaching specialization
2.) GPA of 2.5 or above (a) overall, (b) in all professional education courses, *and* (c) in the student's area of teaching specialization
3.) Disclosure of any criminal charges since admission to the program

Some teacher education programs have additional or higher requirements for retention. Information about these additional requirements can be obtained in the program's home department. *Note: Requirements for admission to student teaching are higher than requirements for retention in the program.*

#### Admission to Yearlong Internships and Student Teaching

Most undergraduate teacher education programs incorporate student teaching in a yearlong internship that spans a student's Senior year. The yearlong internship consists of one semester of intensive part-time clinical work in the classroom while completing coursework on campus. This clinical semester is followed by a semester of full-time student teaching, usually completed in the same classroom.

Students must apply and be formally admitted to a yearlong internship two semesters prior to the start of student teaching, which is typically in the first or second semester of the Junior year. In addition, during the first semester of their yearlong internship, students are screened for eligibility for student teaching. The minimum requirements for admission to student teaching are as follows:

1.) Senior status
2.) Prior admission to a teacher education program
3.) Completion of all other course work in a student's program of study
4.) An overall GPA of 2.50 or above in the student's total program of study
5.) Grades of C or above in all professional education courses and a GPA of 2.75 or above in those courses
6.) Grades of C or above in all courses in the student's area of teaching specialization and a GPA of 2.75 or above in those courses
7.) Recommendation from the student's faculty advisor(s) certifying readiness to student teach

Some teacher education programs have additional requirements for admission to the yearlong internship and student teaching. Information about those requirements can be obtained from the program's home department. Information about procedures and deadlines for applying for yearlong internships and student teaching in all programs can be obtained in the Office of School and Community Partnerships or online at osacp.charlotte.edu.

## Graduation and Licensure Requirements

For a degree to be conferred, a student must successfully complete all program requirements, which at a minimum includes:

- Grades of C or above in all professional education classes

For a recommendation of licensure:

- A passing grade in student teaching with recommendation from the clinical educator, school principal, and University Supervisor
- Per NC State Board of Education policy, beginning September 1, 2019 (fall 2019 semester), all candidates seeking a North Carolina licensure recommendation must have an official edTPA minimal passing score.

## Academic Advising

The Office of Teacher Education Advising and Licensure (TEAL) serves and advises all students involved in teacher education programs prior to their admission to the major (pre-education students). TEAL is responsible for:

- Promotion of teacher education programs and recruitment of students prior to their admission to UNC Charlotte
- Collaboration with pre-education students and advisors at community colleges in North Carolina
- Academic advisement of pre-education students prior to their admission to a specific teacher education program (which typically occurs during their Sophomore year) and upper-division advising for COED majors/minors
- Collaboration with departments within the College of Arts + Architecture and the College of Humanities & Earth and Social Sciences and the Klein College of Science concerning admission to teacher education programs when those departments have teacher education tracks or degrees
- Academic support services for both students and their professional and faculty advisors as students admitted to a teacher education program progress through their programs, complete student teaching, and apply for licensure
- Management of all applications for teacher licensure

In collaboration with academic departments involved in teacher education, the TEAL Office is the Cato College of Education's central source of information about academic program requirements; criteria and procedures for admission to a specific teacher education program; disseminate information and testing preparation resources for Praxis Core, Pearson and Praxis Subject Assessment examinations; requirements and procedures for obtaining licensure in North Carolina (or in other states that have reciprocity agreements with North Carolina); and final audits to ensure completion of all program and licensure requirements. For more details, visit teal.charlotte.edu.

## Support Offices and Resources

### Center for Educational Measurement and Evaluation

The Center for Educational Measurement and Evaluation (CEME) is a collaborative research center within the College of Education. CEME provides program evaluation services and statistical, methodological, and measurement expertise to schools and related agencies. Through CEME, faculty and students engage with educators in mutually beneficial projects that lead to evidence-based practices and improved educational outcomes and policy. Visit ceme.charlotte.edu.

### Center for Science, Technology, Engineering, and Mathematics Education

The Center for Science, Technology, Engineering, and Mathematics Education (CSTEM) sponsors a wide variety of programs and projects that involve pre-service and in-service teachers and are designed to enhance the quality of instruction in science, technology, engineering, and mathematics, for both pre-college and university students. Visit https://cstem.charlotte.edu/.

### Office of School and Community Partnerships

The Office of School and Community Partnerships (OSCP) provides high quality learning experiences for pre-service educators and cutting edge professional development for career practitioners by fostering collaborative relationships with diverse schools, public agencies, and multiple constituencies. OSCP collaborates with these stakeholders to ensure successful clinical and internship experiences for education candidates and continuing education opportunities that meet and exceed education standards. The individual needs of the pre-college candidate, teacher-in-training, and career professional are prioritized to ensure equity, excellence, and engagement throughout all programming sponsored by OSCP. Visit osacp.charlotte.edu for more information.

### Special Facilities and Resources

Examples that support the work of both faculty and students in undergraduate teacher education programs include:

- The Cato College of Education Building includes *classrooms* for reading/language arts, science/mathematics, social studies, and student study rooms.
- The *Education Learning Community* is a one-year program for students who wish to become teachers. Community members take some General Education courses as a cohort group and participate in social activities, community service, and professional development activities.
- The Cato College of Education has partnerships with the *Partner Schools Network* that consists of schools in the region, which are public schools that work closely with the College to provide excellent clinical experience opportunities.

- The Atkins Library supports teacher education programs with a large children's literature collection and curriculum and instructional materials. Visit library.charlotte.edu for details on additional available resources.

## Financial Aid

A number of scholarships and awards are available to undergraduate students in teacher education. Information about these awards is available online at education.charlotte.edu/resources/student-resources/financial-aid, as well as in the Office of Teacher Education Advising and Licensure (TEAL). Awards that recognize the achievements of undergraduate students in teacher education programs are listed below. Additional information about each of these awards can be found at ninerscholars.charlotte.edu/scholarshipsearch.

- Alma and Sharon Goudes Education Scholarship
- Bertha and Irving Fishman Scholarship
- Cato Scholars Endowment
- Cato Scholarship for Education
- Dr. Herman Thomas Scholarship in Education
- Eve H. Buchanan-Cates and J. Mark Cates Endowed Scholarship for Teachers
- Gloria Moore Jones Education Scholarship
- Hathcock-Humble Legacy Scholarship in Education
- Jacqueline F. and Robert F. Hull Jr. Scholarship for Teachers
- Jane and Rusty Goode Endowment for Educators
- Jane and Rusty Goode Scholarship
- Lula Faye Clegg Memorial Scholarship
- Mary Fary Combs Memorial Scholarship
- MECK Pre-K Early Childhood Scholarship
- Michael Green Family Merit Scholarship
- Middle Grades University Endowed Scholarship
- Military Order of the Purple Heart Scholarship
- NC Alpha Chapter of ADK Memorial Scholarship
- Richard and Jacqueline Whitfield Early Childhood Education Scholarship
- Ronald J. Anderson Memorial Scholarship
- Shannon and Eric Reichard Special Education Scholarship

## Student Organizations

Examples of organizations that are especially relevant to undergraduate students in teacher education programs include:

- **Student North Carolina Association of Education -** The Student North Carolina Association of Education (SNCAE), affiliated with the North Carolina Association of Educators (NCAE) and the National Education Association (NEA)
- **Student Council for Exceptional Children -** The Student Council for Exceptional Children (SCEC), affiliated with the Council for Exceptional Children (CEC)
- **College Middle Level Association -** The College Middle Level Association promotes excellent teaching in the middle grades and support for middle grades teacher candidates
- **Omicron Pi Chapter of Kappa Delta Pi -** The Omicron Pi Chapter of Kappa Delta Pi is an international honor society in education for undergraduate and graduate students. To qualify for membership, undergraduate students must have a 3.5 cumulative GPA, 30 credit hours, and admission to teacher education. Graduate students must have a 3.75 cumulative GPA, 18 credit hours, and majoring in a field of education.

# Department of Counseling

counseling.charlotte.edu

Please see the *UNC Charlotte Graduate Catalog* for graduate programs and degrees related to the Department of Counseling.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

# Department of Educational Leadership

edld.charlotte.edu

## Undergraduate Programs

- **Early Entry: Learning, Design, and Technology, Online Learning and Teaching Concentration, M.Ed.**
- **Early Entry: Graduate Certificate in Learning, Design, and Technology, Online Learning and Teaching Concentration**
- **Early Entry: Learning, Design, and Technology, Training and Development Concentration, M.Ed.**
- **Early Entry: Graduate Certificate in Learning, Design, and Technology, Training and Development Concentration**

Please see the *UNC Charlotte Graduate Catalog* for graduate programs and degrees related to the Department of Educational Leadership.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

## Early Entry: Learning, Design, and Technology, M.Ed., *Online Learning and Teaching Concentration*

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School
- (Optional) Acceptable scores on the appropriate graduate standardized test (e.g., GRE)
- (Optional) A work sample that is appropriate for the degree, such as an instructional video, portfolio, tutorial, research paper, or technology-enhanced lesson plan

### Progression Requirements

- Completion of the Early Entry Program Form and approval by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, before registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

### Special Policies or Requirements

Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

## Early Entry: Graduate Certificate in Learning, Design, and Technology, *Online Learning and Teaching Concentration*

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Submit application online at gradadmissions.charlotte.edu/apply

and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School
- (Optional) Acceptable scores on the appropriate graduate standardized test (e.g., GRE)
- (Optional) A work sample that is appropriate for the degree such as an instructional video, portfolio, tutorial, research paper, or technology-enhanced lesson plan

### Progression Requirements
- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

### Special Policies or Requirements
Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

## Early Entry: Graduate Certificate in Learning, Design, and Technology, M.Ed., *Training and Development Concentration*
Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School
- (Optional) Acceptable scores on the appropriate graduate standardized test (e.g., GRE)
- (Optional) A work sample that is appropriate for the degree, such as an instructional video, portfolio, tutorial, research paper, or technology-enhanced lesson plan

### Progression Requirements
- Completion of the Early Entry Program Form and approval by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, before registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

### Special Policies or Requirements
Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

## Early Entry: Graduate Certificate in Learning, Design, and Technology, *Training and Development Concentration*
Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

### Admission Requirements
- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School
- (Optional) Acceptable scores on the appropriate graduate standardized test (e.g., GRE)
- (Optional) A work sample that is appropriate for the degree, such as an instructional video, portfolio, tutorial, research paper, or technology-enhanced lesson plan

### Progression Requirements
- Completion of the Early Entry Program Form and approval by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, before registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of

graduate credit before they have completed their baccalaureate degree

### Special Policies or Requirements

Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# Department of Middle, Secondary, and K-12 Education

mdsk.charlotte.edu

## Undergraduate Programs

- B.A. in Middle Grades Education
- Minor in Civic Engagement and Youth Leadership
- Minor in Foreign Language Education (K-12)
- Minor in Secondary Education
- Minor in Teaching English as a Second Language
- Early Entry: Graduate Certificate in Foreign Language Education
- Early Entry: Graduate Certificate in Teaching: Middle and Secondary Education

The Department of Middle, Secondary, and K-12 Education offers programs leading to a Bachelor of Arts degree in Middle Grades Education; Minors in Secondary Education, Foreign Language Education FLED), and Teaching English as a Second Language (TESL); teaching licensure in Middle Grades, Secondary, and K-12 Education (foreign language and English as a second language) through Graduate Certificate in Teaching and Master of Arts in Teaching Programs; a Master's of Education degree in Curriculum and Instruction with Concentrations in Middle Grades Education, Secondary Education, Teaching English as a Second Language, and Curriculum Leadership; and a Ph.D. in Curriculum and Instruction. (See the *UNC Charlotte Graduate Catalog* for details on the graduate programs.)

More than ever, the teaching profession offers college graduates exciting opportunities and challenges. The undergraduate teacher education programs offered by the department provide the first crucial step in career development for aspiring teachers of grades 6-9 (middle grades), 9-12 (secondary), and K-12 (foreign languages and English as a second language).

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

## Bachelor of Arts in Middle Grades Education

A B.A. in Middle Grades Education qualifies graduates for the North Carolina Initial Professional License (IPL) in one of the following four content areas in grades 6-9: English language arts, mathematics, science, or social studies. Graduates of the program are prepared to meet the North Carolina Professional Teaching Standards and the ten Interstate New Teachers Assessment and Support Consortium (INTASC) Standards for new teachers in Content Pedagogy, Student Development, Diverse Learners, Multiple Instructional Strategies, Motivation and

Management, Communication and Technology, Planning, Assessment, Reflective Practice, and School and Community Involvement. Graduates have specific coursework and clinical experiences in a variety of settings in order to learn and apply evidence-based knowledge and practices in the field of young adolescent development and middle grades education.

## Admission Requirements (Pre-Education Foundational) (6-7 credit hours)

### Freshmen and Transfers

*Minimum criteria for Admission to the MDSK program:*

- See University Admission Requirements
- Completion of the following courses with a minimum grade of a C by the end of the semester of application
  - EDUC 1511 – Local Social Science: Public Education and Schooling in the U.S. (3 to 4)
  - SPED 2100 - Exceptionality in Schools and Society (3)
- An overall GPA of 2.7
- A passing score on the PRAXIS Core exam or acceptable alternatives (SAT or ACT scores)
- 30 credit hours
- Pass a criminal background check (completed at time of application in TEAL)
- Signed Statement of Commitment to Professional Dispositions

### Currently Enrolled Students

- *Declaration of Major:* The Middle Grades Education major is intended to be started in the second semester of Sophomore year. Students should plan to declare the major no later than the first semester of the Sophomore year. Students must complete an "Application for Admission to a Teacher Education Program" in the Office of Teacher Education Advising and Licensure (TEAL) in the Cato College of Education. Students must apply for admission to a specific teacher education program and complete the admissions process in order to enroll in any professional education courses at the 3000 level or above.

## Degree Requirements

The Major in Middle Grades Education leading to the B.A. degree requires a minimum of 120-125 credit hours.

### General Education Courses (31-32 credit hours)

These course requirements vary with a student's academic concentration. In some concentrations, courses may count for both Gen Ed and the requirements of the concentration.

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information. Students in this major should plan on taking the following courses that meet general education requirements and also satisfy courses in one of the concentration areas within the major:

#### *Science Concentration*

Select any two courses listed in the concentration to meet both Natural Science and concentration requirements.

#### *Mathematics Concentration*

Select the following to meet both Mathematics and Logical Reasoning and concentration requirements:

MATH 1120 - Calculus (3)
STAT 1220 - Elements of Statistics I (BUSN) (3)
or - STAT 1222 - Introduction to Statistics (3)

### Core Courses (23 credit hours)

Select one of four academic concentrations to complete (Math, Science, English or History). Dual licensure in a second concentration is possible with additional concentration courses. Admission to Teacher Education and advisor approval are required in order to register for any of the following courses.

EDUC 4290 - Inclusion of Students with Varied Learning Needs (3)
or SPED 4276 - Teaching Reading to Middle and Secondary Learners (3)
MDLG 3130 - The Early Adolescent Learner (3)
or SECD 4140 - Adolescence and Secondary Schools (3)
MDLG 3131 - The Philosophy and Curriculum of Middle Grades Education (3)
MDSK 3100 - The Connected Classroom (3)
MDSK 3151 - Instructional Design and Technology Integration (3)
MDSK 3252 - Differentiating Instruction for Adolescent Learners (3)
MDSK 4210 - Classroom Leadership (2)
TESL 4204 - Learning, Schools, and Community (3)

### Methodology Courses (3 credit hours)

Select two of the following methodology courses that aligns with the intended areas of licensure:

MDSK 4251 - Teaching Science to Middle and Secondary School Learners (3)
MAED 4252 - Teaching Mathematics to Secondary School Learners (3)
MDSK 4253 - Teaching Social Studies to Middle and Secondary School Learners (3) (SL)
ENGL 4254 - Teaching English/Communication Skills to Middle and Secondary School Learners (3)

### Content Area Instruction and Assessment (3 credit hours)

*Select one of the following sections of MDSK 4300 specific to concentration area (English, Science, Social Studies, Math).*

MDSK 4300 - Content Area Instruction and Assessment (3)

### Concentration Courses

### Mathematics (24 hours)

MAED 4103 - Using Technology to Teach Secondary School Mathematics (3)
MATH 1120 - Calculus (3) *
or MATH 1241 - Calculus I (3)
MATH 2340 - Number Concepts and Relationships (3)
MATH 2341 - Algebra and Algebraic Structures (3)
MATH 2342 - Data Analysis and Probability (3)
MATH 2343 - Geometry and Measurement (3)
STAT 1220 - Elements of Statistics I (BUSN) (3) *
or STAT 1222 - Introduction to Statistics (3) *
Math Elective* (3)
** Satisfies a Quantitative and Data General Education requirement*

### Science (23 hours)

BIOL 1110 – Principles of Biology I* (3)
and BIOL 1110L - Principles of Biology I and Lab (1)

BIOL 2120 - General Biology I (3)
CHEM 1111 – Chemistry in Today's Society *(3)
and CHEM 1111L - Chemistry in Today's Society Lab (1)
ESCI 1101 – Earth Science-Geography* (3)
and ESCI 1101L - Earth Science-Geography Lab (1)
GEOL 1200 (3) – Physical Geography* (3)
and GEOL 1200L - Physical Geology Lab* (1)
PHYS 1101 (3) – Introduction to Physics* (3)
and PHYS 1101L - Introduction to Physics Lab* (1)
**Satisfies a Natural Science General Education requirement*

**English (24 hours)**
ENGL 2100 - Writing About Literature (3)
ENGL 3104 - Literature for Adolescents (3)
ENGL 3190 - Teaching Academic English to Adolescent Learners (3)
ENGL 4200 - Teaching of Writing (3)
ENGL 4201 - Teaching of Multiethnic Literature (3)
ENGL 4270 - Studies in Writing, Rhetoric, and Literacy (3)
or ENGL 4271 - Studies in Writing, Rhetoric, and New Media (3)
or ENGL 2161 - Grammar for Writing (3)
or ENGL 4161 - Modern English Grammar (3)
Two ENGL elective courses dealing with British or American Literature (6)

**Social Studies (24 hours)**
XXXX 1575 American Democracy (AMDM, CAPI, HIST, POLS)*
ECON 2101 - Principles of Macroeconomics (3)
or ECON 2102 - Principles of Microeconomics (3)
GEOG 1105 - Introduction to Human Geography (3)
or GEOG 1501 - Global Social Science: Global Geography (3) *
HIST 2050 - Themes in United States History (3)
HIST 2051 - Themes in European History (3)
HIST 2297 - History of North Carolina, 1500 to the Present (3)
One Non-Western course (HIST, LTAM, AFRS) (3)
One Non-Western course (HIST, LTAM, AFRS) (3)
POLS 2120 - Introduction to Public Policy (3)

** Satisfies a General Education requirement*

**Internship & Student Teaching (15 credit hours)**
An internship and student teaching experience (MDLG 4440) are requirements for completion of the major. The internship must begin one semester prior to a candidate's final student teaching semester. During the internship semester, students spend one day per week in an assigned classroom while completing coursework on campus. Upon completing the internship semester, students complete full-time student teaching (MDLG 4440) in the same classroom during the final graduating semester for a total of 15 credit hours.

An application is required for admission to the internship and student teaching experience and must be completed in the semester prior to beginning the internship semester (see the Office of School and Community Partnerships website for application deadlines). Student teaching is required the last semester upon completing all other coursework required for the major. Student teaching requires the undergraduate advisor's recommendation. See the Office of School and Community Partnerships website for more information.

MDLG 4440 - Student Teaching/Seminar: 6-9 Middle Grades Education (15)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements
For a degree to be conferred, students must successfully complete all program requirements which include:
- Minimum GPA of 2.7 to declare major
- Minimum GPA of 2.5 must be maintained to remain enrolled.
- Students should plan to take EDUC 1511 and SPED 2100 during Freshman Year.
- Grades in professional education and concentration courses must be C or above.
- Minimum overall GPA in professional education and concentration courses must be 2.75.
- Students may repeat a professional course once.

**Requirements for Licensure and Graduation**
- A grade of P in student teaching with recommendation from Cooperating Teacher, University Supervisor, and Principal
- Passing score on edTPA is required for licensure and graduation.

## Admission to Upper Division
Minimum criteria for Admission to the MDSK program for all currently enrolled and transfer students:
- See University Admission Requirements
- Completion of the following courses with a minimum grade of a C by the end of the semester of application:
  - EDUC 1511 - Local Social Science: Public Education and Schooling in the U.S. (3 to 4)
  - SPED 2100 - Exceptionality in Schools and Society (3)
- An overall GPA of 2.7
- A passing score on the PRAXIS Core exam or acceptable alternatives (SAT or ACT scores)
- 30 credit hours
- Pass a criminal background check (completed at time of application in TEAL)
- Signed Statement of Commitment to Professional Dispositions

## Special Policies or Requirements
The successful completion of this degree program includes meeting the North Carolina Department of Public Instruction's licensure requirements for certification. Consequently, additional requirements must be completed during the student's program and are listed below. Since state licensure requirements often change, additional work may be required to complete the program with a teaching license.

**Planning Sheet**

All education students are tracked through their program with a Program Planning Sheet. The original planning sheet is uploaded to the advising system and lists all courses taken, transfer hours, General Education and minor requirements met, and courses remaining in the program. Note that the University requires that the minimum number of credits in a degree program is 120 credit hours.

### Clinicals

Some courses in the professional program include a clinical requirement where students complete specific activities or designated hours in an appropriate setting. Clinicals are designed to expose students to diverse school demographics, locations, and programs.

## Academic Advising

The Middle Grades Education major has a very structured curriculum. Students who intend to major in Middle Grades Education are classified as Pre-Education majors in Middle Grades Education. During the pre-education phase, students are advised by TEAL advisors regarding General Education and Academic Concentration courses to meet the requirements for admission to the Middle Grades Education major.

Upon completion of the education prerequisite courses, students apply for admission to the MDSK program as majors. Upon admission to full-standing in the program, students are advised through the MDSK Advising Center where they plan the remainder of their program of studies. Current prospective candidates should reach out to Dr. Adam Myers for guidance.

## Honors Program

For details about the Honors Program in Education, see the beginning of the Cato College of Education section.

# Minor in K-12 Foreign Language Education

A Minor in K-12 Foreign Language Education requires 35-39 credit hours, including foreign language methodology courses, and 15 hours for the student teaching semester.

## Admission Requirements

### Freshmen and Transfers

Students wishing to Minor in K-12 Foreign Language Education must be approved for admission to the minor by meeting statewide teacher education program admission requirements. Advising and admission to the minor are administered through the Office of Teacher Education Advising and Licensure (TEAL) in the College of Education. The criteria for admission include:

- See University Admission Requirements
- 30 earned credit hours
- GPA of 2.7 or above
- Major in a foreign language for which there is teacher licensure (French, German, Japanese, or Spanish)
- Grades of C or above in either:
    - MDSK 2100
    - EDUC 1511 and SPED 2100
- A passing score on the Praxis Core exam or acceptable alternatives (SAT or ACT)
- Signed Statement of Commitment to Professional Dispositions
- Pass a criminal background check (completed at time of application in TEAL)
- Recommendation of major advisor

Students should consult with an advisor in the Office of Teacher Education Advising and Licensure (TEAL) as soon as they begin considering teacher education in order to graduate on time.

After admission to the minor, advising is offered through the Department of Middle, Secondary, and K-12 Education in collaboration with advising in the student's major department.

The minor is designed to be coordinated with coursework in the major, with the final semester as the full-time student teaching semester. Successful completion of the minor leads to a recommendation for the initial teaching license in the K-12 subject area associated with the student's major (French, German, Japanese, or Spanish).

## Minor Requirements

### Prerequisites (3-7 credit hours)

*Take MDSK 2100 or take EDUC 1511 and SPED 2100.*

MDSK 2100 - Foundations of Education in Secondary Schools (3)
or EDUC 1511 - Local Social Science: Public Education and Schooling in the U.S. (3 to 4)
and SPED 2100 - Exceptionality in Schools and Society (3)

### Pre-Internship (11 credit hours)

MDSK 3100 - The Connected Classroom (3)
MDSK 3151 - Instructional Design and Technology Integration (3)
MDSK 4210 - Classroom Leadership (2)
MDLG 3130 - The Early Adolescent Learner (3)
or SECD 4140 - Adolescence and Secondary Schools (3)

### Yearlong Internship and Student Teaching (21 credit hours)

Students are required to complete a yearlong internship beginning the semester prior to the student teaching semester and ending upon the successful completion of the student teaching semester. Application to the yearlong internship should be submitted to the Office of School and Community Partnerships during the first semester of education coursework. Deadlines are posted on the Office of School and Community Partnerships website at osacp.charlotte.edu. Prior to student teaching, teacher candidates must demonstrate advanced foreign language skills by obtaining a minimum score of Advanced Low on the Oral Proficiency Interview (OPI).

Major/Content advisor recommendation is required for beginning the Yearlong Internship in Semester 2 of program course sequence. Requirements include:

- GPA of 2.7 in the major/licensure, with grades of C or above, can be attained before the student teaching semester
- Documentation of Major/Content Planning Sheet for Student Folder in the Department of Middle, Secondary, and K-12 Education

FLED 4105 - Applied Content Pedagogy (3)
FLED 4200 - Methods in Teaching Foreign Languages (3)
FLED 4469 - Student Teaching/Seminar: K-12 Foreign Language (12)

*Note: Enrollment in FLED 4469 requires admission to student teaching through the College's Office of School and Community Partnerships, a*

*GPA of 2.75 in the major, licensure area, and in professional education courses with no grades lower than a C, a 2.5 cumulative GPA, a minimum score of Advanced Low on the Oral Proficiency Interview (OPI), and completion of a scholarly paper written in the intended language of instruction (French, German, Japanese or Spanish) that is evaluated by a post-secondary instructor at the proficient or accomplished level in all areas of the corresponding rubric.*

### Minor Total = 35-39 Credit Hours

### Progression Requirements
For a degree to be conferred, students must successfully complete all program requirements which include:

- Grades of C or above in all professional education courses
- Education degree minimum GPA of 2.75 and a minimum content GPA of 2.75

Recommendation for licensure must include:
- A grade of P in student teaching with recommendation from a Clinical Educator, University Supervisor, and Principal
- Passing score on edTPA is required for licensure and graduation.

### Special Policies or Requirements
The successful completion of this degree program includes meeting the North Carolina Department of Public Instruction's licensure requirements for certification. Consequently, additional requirements must be completed during the student's program and are listed below. Since state licensure requirements often change, additional work may be required to complete the program with a teaching license.

## Minor in Secondary Education
The Minor in Secondary Education prepares excellent and reflective teacher candidates in the fields of English, Mathematics, Comprehensive Science, and Comprehensive Social Studies to successfully utilize 21st century knowledge, skills, and dispositions for addressing the demands of an ever-changing global and ethnically diverse society, community, and classroom while implementing effective, research-based content pedagogy to meet the individual cognitive and emotional needs of all students, and systematic and reflective analysis of connections between practice and student learning.

A Minor in Secondary Education requires 35 credit hours, including a 3 credit hour introductory course and 12 credit hours for the student teaching semester. The Minor in Secondary Education qualifies graduates for an entry-level (Standard Professional I) license to teach in one of the following subject areas in grades 9-12: English, Biology, Chemistry, Comprehensive Science, Comprehensive Social Studies, Environmental Studies, Physics, or Mathematics. Students major in an appropriate Arts and Sciences discipline and minor in Secondary Education through completion of a three-semester sequence of courses, which includes a yearlong internship incorporating the student teaching semester. The Comprehensive Social Studies license builds on a major in History, Geography, or Political Science. The Comprehensive Science license builds on a Major in Biology, Chemistry, Environmental Studies, or Physics.

Graduates of the Minor in Secondary Education are prepared to meet the state and national standards for new teachers in the following areas: content and content pedagogical knowledge; authentic applications of instructional design; effective integration of advanced and emerging technologies; respectful learning environments for a diverse student population; facilitation of learning for all students through collaboration and use of multiple instructional strategies; student motivation and management; purposeful and reflective practice; systematic formative and summative assessment; and leadership in schools, community, and profession.

### Admission Requirements
#### Current UNC Charlotte Undergraduate Students
Students wishing to minor in Secondary Education must be approved for admission to the minor by meeting statewide teacher education program admission requirements. Advising and admission to the minor are administered through the Office of Teacher Education Advising and Licensure (TEAL) in the College of Education.

The criteria for admission include:
- See University Admission Requirements
- 30 earned credit hours
- GPA of 2.7 or above
- Major in a subject area for which there is teacher licensure (English, Math, Biology, Chemistry, Environmental Studies, Physics, History, Political Science, and Geography)
- Grade of C or above in MDSK 2100
- A passing score on the Praxis Core exam or acceptable alternatives (SAT or ACT scores)
- Signed Statement of Commitment to Professional Dispositions
- Pass a criminal background check (completed at time of application in TEAL)

Students should consult with an advisor in Office of Teacher Education Advising and Licensure (TEAL) as soon as they begin considering teacher education in order to graduate on time.

After admission to the minor, advising is offered through the Department of Middle, Secondary, and K-12 Education in collaboration with advising in the student's major department.

The minor is designed to be coordinated with coursework in the major, with the final semester as the student teaching semester. Successful completion of the minor leads to a recommendation for the initial teaching license in the high school subject area associated with the student's major.

### Minor Requirements
The undergraduate Minor in Secondary Education requires a major in the College of Humanities & Earth and Social Sciences in a discipline relevant to the curriculum in grades 9-12, a minimum of 120 credit hours, and a maximum of 128 credit hours as follows:

#### General Education Courses (31-32 credit hours)
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

These course requirements vary with a student's academic major in the College of Humanities & Earth and Social Sciences and are defined by faculty in each major.

**Core and Related Courses in an Appropriate College of Humanities & Earth and Social Sciences Major (30-66 credit hours)**
Academic majors relevant to secondary education include Biology, Chemistry, Environmental Studies, English, Geography, History, Mathematics, Physics, and Political Science. The requirements for each major are defined by faculty in that major.

**Secondary Education Courses (32 credit hours)**
Admission to Teacher Education and Department of Middle, Secondary, K-12 Education advisor approval are required in order to register for any professional education coursework.

***Prior to Admission (3 credit hours)***
The following course should be taken prior to a student's final three semesters and must be completed with a grade of C or above for the student to qualify for admission to the Teacher Education Program in the selected field of secondary education.

MDSK 2100 - Foundations of Education in Secondary Schools (3)

***Semester 1 (3 credit hours)***
MDSK 3100 - The Connected Classroom (3)
or TESL 4204 - Learning, Schools, and Community (3)

***Semester 2 (8 credit hours)***
MDSK 3151 - Instructional Design and Technology Integration (3)
MDSK 4210 - Classroom Leadership (2)
SECD 4140 - Adolescence and Secondary Schools (3)

***Semester 3 (6 credit hours)***
*(First Semester of Yearlong Internship)*
*Method Course (3 credit hours)*
*Select one of the following corresponding to content specific major in which candidate seeking licensure:*
MDSK 4251 - Teaching Science to Middle and Secondary School Learners (3)
MAED 4252 - Teaching Mathematics to Secondary School Learners (3)
MDSK 4253 - Teaching Social Studies to Middle and Secondary School Learners (3) (SL)
ENGL 4254 - Teaching English/Communication Skills to Middle and Secondary School Learners (3)

*Content Area Instruction and Assessment Course (3 credit hours)*
*Select the section of the following course that is specific to the content major:*
MDSK 4300 - Content Area Instruction and Assessment (3)

***Semester 4 (15 credit hours)***
*(Second Semester of Yearlong Internship)*
SECD 4440 - Student Teaching/Seminar: 9-12 Secondary Education (15)

**Yearlong Internship**
Students are required to complete a yearlong internship beginning the semester prior to the student teaching semester and ending upon the successful completion of the student teaching semester. Application to the yearlong internship should be submitted to the Office of School and Community Partnerships during the second semester of professional education courses.

Major/Content advisor recommendation is required for beginning the Yearlong Internship in Semester 3 of program course sequence. Requirements include:

- GPA of 2.75 in the major/licensure, with grades of C or above, must be attained before the student teaching semester
- Documentation of Major/Content Planning Sheet for Student Folder in the Department of Middle, Secondary, and K-12 Education

## Minor Total = 35 Credit Hours

## Progression Requirements

For a degree to be conferred, students must successfully complete all program requirements which include:

- Grades of C or above in all professional education courses
- Education degree minimum GPA of 2.75 and a minimum content GPA of 2.75

Recommendation for licensure must include:

- A grade of P in student teaching with recommendation from a Clinical Educator, University Supervisor, and Principal
- Passing score on edTPA is required for licensure and graduation.

## Special Policies or Requirements

The successful completion of this degree program includes meeting the North Carolina Department of Public Instruction's licensure requirements for certification. Consequently, additional requirements must be completed during the student's program and are listed below. Since state licensure requirements often change, additional work may be required to complete the program with a teaching license.

## Academic Advising

With the assistance of their major advisor in Arts and Sciences, students intending to seek a teaching license in an area of secondary education (grades 9-12) apply to the Teacher Education Program through the Office of Teacher Education Advising and Licensure (TEAL) in the Cato College of Education. Interested students are encouraged to visit TEAL at any time before applying to teacher education. Upon admission to the Teacher Education Program, which typically occurs at the end of the Freshman year or middle of the Sophomore year, students are assigned a secondary education advisor in the Advising Center of the Department of Middle, Secondary, and K-12 Education. This advisor has particular responsibility for guidance about professional education coursework. Assignment of the student's Minor in Secondary Education advisor is the responsibility of the Chair of the Department of Middle, Secondary, and K-12 Education (MDSK).

# Minor in Teaching English as a Second Language

A Minor in Teaching English as a Second Language (TESL) requires the completion of 18 credit hours of specialized coursework. This program is designed for students already seeking an initial license in another content area who wish to gain expertise in the education of English Language Learners in the K-12 public school setting.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

See University Admission Requirements

Students wishing to minor in Teaching English as a Second Language must be approved for admission to the minor by meeting statewide teacher education program admission requirements. Advising and admission to the minor are administered through the Office of Teacher Education Advising and Licensure (TEAL) in the Cato College of Education. The criteria for admission include:

- 30 earned credit hours
- GPA of 2.7 or above
- Major or minor in a subject area for which there is teacher licensure (Elementary Education, Special Education, Secondary or Middle Grades Education, etc.)
- Grades of C or above in either:
    - MDSK 2100
    - EDUC 1100/EDUC 1511 and SPED 2100
- A passing score on the Praxis Core exam or acceptable alternatives (SAT or ACT scores)
- Signed Statement of Commitment to Professional Dispositions
- Pass a criminal background check (completed at time of application in TEAL)

Students should consult with an advisor in the Office of Teacher Education Advising and Licensure (TEAL) as soon as they begin considering teacher education in order to graduate on time.

After admission to the minor, advising is offered through the Department of Middle, Secondary, and K-12 Education in collaboration with advising in the student's major department. Contact the Cato School of Education for advising.

The minor is designed to be coordinated with Junior and Senior level coursework in the major. The final semester includes an advanced seminar/practicum in TESL taken in conjunction with the major area of studies internship in a high-needs ESL setting. Successful completion of the minor and passing licensure testing requirements lead to a recommendation for North Carolina add-on K-12 licensure in ESL.

## Minor Requirements

TESL 4103 - Methods in Teaching English as a Second Language (3)
TESL 4104 - Authentic Assessment (3)
TESL 4204 - Learning, Schools, and Community (3)
TESL 4205 - Second Language Acquisition and Linguistics in K-12 Schools (3)
or - ENGL 3132 - Introduction to Contemporary American English (3)
TESL 4469 - Advanced Seminar/Practicum in Teaching English as a Second Language (3)*
TESL 4600 - Literacy Development for Second Language Learners (3)

**TESL 4469 should be taken in conjunction with the student teaching course for the academic program. Student teaching must be completed in a high-needs school with a large ESL student population.*

## Minor Total = 18 Credit Hours

## Progression Requirements

While it is recommended that the TESL Minor be declared prior to beginning the professional education courses in the major area of studies, candidates' situations with special circumstances for later TESL Minor declarations will be considered by the TESL Minor Program Director on a case-by-case basis.

For a degree to be conferred, students must successfully complete all program requirements which include:

- Grades of C or above in all professional education courses
- Maintain an overall GPA of 2.5 or higher

**Requirements for Licensure and Graduation**

- A grade of P in student teaching with recommendation from Cooperating Teacher, University Supervisor, and Principal

## Special Policies or Requirements

TESL Minors must complete their major area of studies year-long internship in a high-needs ESL setting.

# Minor in Civic Engagement and Youth Leadership

The Minor in Civic Engagement and Youth Leadership is an interdisciplinary program focused on civic engagement and service learning designed to prepare UNC Charlotte students to become informed and engaged citizens by providing opportunities to be agents of change in their community. The minor is open to all majors who seek to explore the strengths, capabilities, and issues of youth and communities in urban settings. Elective courses are concentrated in the areas of Urban Youth and Education, Communities, and Social Justice.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

See University Admission Requirements

The Minor in Civic Engagement and Youth Leadership is open to all majors and can be declared at any time. No minimum GPA is required for admission to the Civic Engagement and Youth Leadership program. Additionally, although no course prerequisites are required for admission, some elective courses may have prerequisites.

## Minor Requirements

The minor requires 15 credit hours, including two required courses for all students and an additional required course for Cato College of Education majors.

**Core Courses (3-6 credit hours)**
*All majors except Cato College of Education majors:*
CTCM 2530 - Interdisciplinary Critical Thinking and Communication (3)

*Cato College of Education majors only:*
CTCM 2530 - Interdisciplinary Critical Thinking and Communication (3)
EDUC 3200 - Service Learning Teaching Methods for K-12 Educators (3)

**Elective Courses (6-9 credit hours)**
For the Minor in Civic Engagement and Youth Leadership, 6-9 elective credit hours are required (6 credit hours if a College of Education major and taking EDUC 3200, 9 credit hours otherwise). For all majors except College of Education majors, one elective course (3 credit hours) must be chosen from each of the following areas: Urban Youth and Education, Communities, and Social Justice. College of Education majors select an elective course only from the Communities and Social Justice areas.

***Urban Youth and Education Course (3 credit hours)***
*Select one of the following:*
AFRS 2208 - Education of African Americans (3)
ECEI 2111 - Theoretical Foundations of Early Childhood Care and Education (3)
CJUS 2361 - Juvenile Justice (3)
EDUC 1511 - Local Social Science: Public Education and Schooling in the U.S. (3)
or EDUC 1100 - Foundations of Education and Diversity in Schools - Prospect Curriculum (4)
EDUC 3200 - Service-Learning Teaching Methods for K-12 Educators (3)
MDSK 2100 - Foundations of Education in Secondary Schools (3)
PSYC 2370 - Child Development (3)
PSYC 2371 – Adolescent Development (3)
SOCY 4135 - Sociology of Education (3)

***Communities Course (3 credit hours)***
*Select one of the following:*
AFRS 2215 - Black Families in the United States (3)
AFRS 3280 - Blacks in Urban America (3)
ANTH 2125 - Urban Anthropology (3)
GEOG 2000 - Social Inequality and Planning (3)
GEOG 2200 - Introduction to Urban Studies (3)
GEOG 4220 - Housing Policy (3)
HIST 3281 - American Cities (3)
LTAM 1100 - Introduction to Latin America (3)
LTAM 1501 – Global Social Science: Introduction to Latin American Politics and Society (3)
LTAM 1502 – Global Arts/Humanities: Introduction to Latin American History and Culture (3)
PSYC 3155 - Community Psychology (3)
RELS 3137 - Religion in the African-American Experience (3)
SOCY 4124 - Sociology of the Community (3)

***Social Justice Course (3 credit hours)***
*Select one of the following:*
AFRS 3101 - Perspectives on Race and Ethnicity in the U.S. (3)
ARSC 3480 - Citizenship and Service Practicum (3)
CJUS 3366 - Domestic Violence (3)
CJUS 4363 - Gender, Race, and Justice (3)
COMM 3136 - Leadership, Service, and Ethics (3)
HIST 3218 - Racial Violence, Colonial Times to Present (3)
PSYC 3806 - Undergraduate Research Assistantship (3) *(Summer only)*
SOCY 3143 - Social Movements (3)
SOCY 4111 - Social Inequality (3)
SOCY 4125 - Urban Sociology (3)

**Capstone Course (3 credit hours)**
*To be taken the final semester of the minor:*
CUYC 3600 - Community Engagement Capstone Seminar (3) (SL)*

### Minor Total = 15 Credit Hours

### Progression Requirements
In courses applied to the minor, students must maintain a GPA of 2.0 or above.

This minor requires a capstone project completed after all other minor requirements have been completed or simultaneously with enrollment in the capstone course.

## Early Entry: Graduate Certificate in Foreign Language Education
Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Demonstrate native or near-native speaking proficiency in the intended language of licensure via a passing score on the Praxis Subject Assessment or a minimum score of Advanced Low on the American Council on the Teaching of Foreign Language's Oral Proficiency Interview (OPI) AND Writing Proficiency Test (WPT) in the intended language of licensure
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

### Progression Requirements
- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

### Special Policies or Requirements
Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and

graduate degrees). Graduate level courses that may be double counted include:

FLED 5104 - Assessment in the Teaching of K-12 Foreign Languages (2)
FLED 5200 - Methods in Teaching Foreign Languages (3)
MDLG 5130 - The Middle Grades Experience (2)
MDSK 5100L - Content Pedagogy Lab (1)
MDSK 5204 - Equity and Education (2)
MDSK 6162 - Planning for K-12 Instruction (2)
MDSK 6162L - Instructional Design Lab (1)
SECD 5140 - The Secondary School Experience (2)
Advanced Content Course (5000-6999) in the intended licensure area (3)

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# Early Entry: Graduate Certificate in Teaching: Middle and Secondary Education

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

All program-level Admissions and Progression Requirements are in addition to the University of North Carolina at Charlotte Admission Requirements.

## Admission Requirements

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Demonstration of content mastery via enrollment in a relevant degree program or a passing score on the appropriate Praxis Subject Assessment
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents including two recommendations
- Recommendation by the Graduate Program Director and approved by the Graduate School after applying

## Progression Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree.

## Special Policies or Requirements

Up to 6 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 6 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# Department of Reading and Elementary Education

reel.charlotte.edu

## Undergraduate Programs

- B.A. in Elementary Education
- Minor in Applied Understandings in Global Education
- Minor in Reading Education
- Early Entry: M.Ed. in Reading Education
- Early Entry: Graduate Certificate in Elementary Mathematics Education

The Department of Reading and Elementary Education offers two initial K-6 licensure elementary education programs: a B.A. in Elementary Education for undergraduate students, and a Graduate Certificate Program to those that hold an undergraduate degree in another field. A Minor in Reading Education is offered for students already seeking initial license in another content area who wish to gain expertise in reading methods in the K-12 public school setting. The department also offers the Minor in Applied Understanding in Global Education for students interested in engaging with global issues and studying abroad.

For previously licensed teachers who wish to continue their education, the department collaborates with the Department of Middle, Secondary, and K-12 Education to offer a concentration in elementary education within the M.Ed. in Curriculum and Instruction program. Designed for experienced teachers, the M.Ed. in Reading Education qualifies graduates for the North Carolina Advanced Standard Professional II teaching license in K-12 reading education. Relevant to all areas of the K-12 curriculum, this program is designed for classroom teachers and aspiring literacy specialists who are interested in improving instructional programs and practices that promote literacy among all learners. There is also a Ph.D. in Curriculum and Instruction with concentrations in Reading Education, Literacy Research, Policy, and Practice and in Curriculum and Education Development. See the *Graduate Catalog* for details on these graduate degree programs.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

## Bachelor of Arts in Elementary Education

The B.A. in Elementary Education program qualifies graduates for Standard Professional 1 (SP1) Professional Educator's License in K-6 Elementary Education. Graduates of the program are prepared to meet the North Carolina Professional Teaching Standards (NCPTS) and the ten Interstate New Teachers Assessment and Support Consortium (INTASC) Standards for new teachers in Content Pedagogy, Student Development, Diverse Learners, Multiple Instructional Strategies, Motivation and Management, Communication and Technology, Planning, Assessment, Reflective Practice, School and Community Involvement. Graduates have specific coursework and clinical experiences in a variety of settings in order to learn and apply evidence-based knowledge and practices in the field of elementary education.

### Admission Requirements (Pre-Education)

**Current UNC Charlotte Undergraduate Students, Freshmen and Transfers***

- See University Admission Requirements
- *Minimum Overall GPA:* 2.7
- *Pre-Major/Prerequisite Courses:* A minimum of 30 credit hours in approved college-level courses, and a grade of C or above in the following:
  - EDUC 1100 or EDUC 1511**
  - SPED 2100**
- Passing scores on the Praxis Core: Academic Skills Assessments in Reading, Writing, and Mathematics; or an acceptable substitute score on the SAT or ACT
- Completion and clearance on the Criminal Background Check
- Signed Statement of Commitment to Professional Dispositions

** Students seeking to enroll in the TA to Teachers program should submit an Undergraduate Admissions Application and meet the articulated admission requirements. Additionally, a secondary application should be submitted through the Distance Education website that includes academic transcripts reflecting an A.A. or A.S. degree and a principal/administrator recommendation.*

*** Students seeking to enroll in the TA to Teachers program who lack credit for EDUC 1100/ EDUC 1511 and SPED 2100 are admitted as a Pre-Education major and are required to complete the courses through Credit by Exam prior to enrollment in the program.*

**Currently Enrolled Students**

- *Declaration of Major:* The Elementary Education major is intended to be started in the first semester of Junior year. Students should

plan to declare the major no later than the second semester of the Sophomore year. Students must complete an "Application for Admission to a Teacher Education Program" in the Office of Teacher Education Advising and Licensure (TEAL) in the Cato College of Education. Students must apply for admission to a specific teacher education program and complete the admissions process in order to enroll in any professional education courses at the 3000 level or above.

## Degree Requirements

The Major in Elementary Education leading to the B.A. degree requires a minimum of 120 credit hours.

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information. Students in this major should plan on taking the following courses that meet general education requirements and also satisfy courses in the major. MATH 1341 is not a required course for the completion of the degree; however, students are highly encouraged to include this course in their program of study.

BIOL 1110 - Principles of Biology I (3)
BIOL 1110L - Principles of Biology I Laboratory (1)
MATH 1340 - Mathematics for Elementary Teachers I (3)

**Foundation Courses (6-7 credit hours)**

EDUC 1511 - Local Social Science: Public Education and Schooling in the U.S. (3)*
or EDUC 1100 - Foundations of Education and Diversity in Schools - Prospect Curriculum (4)*
SPED 2100 - Exceptionality in Schools and Society (3)*

**SPED 2100 and either EDUC 1100 or EDUC 1511 should be taken no later than a student's Sophomore year; both must be completed with a grade of C or above to qualify for admission to the Teacher Education Program.*

**Major Courses (60 credit hours)**

*Note: Admission to Teacher Education and advisor approval are required in order to register for any of the following courses.*

EDUC 4290 - Inclusion of Students With Varied Learning Needs (3)
ELED 3111 - Instructional Design and Assessment in Elementary Education (3)
ELED 3120 - The Elementary School Child (3)
ELED 3221 - Teaching Science to Elementary School Learners (3)
ELED 3223 - Teaching Social Studies to Elementary Learners (3)
ELED 3228 - Elementary Language Arts and Writing (3)
ELED 3292 - Theories and Practice in Urban Education (3)
ELED 4121 - Assessment and Instructional Differentiation in the Elementary School Classroom (3)
ELED 4122 - Creating an Effective Environment in the Elementary School Classroom (3)
ELED 4220 - Instructional Planning for Elementary Learners (3)
ELED 4420 - Student Teaching/Seminar: K-6 Elementary Education (15)
MAED 3222 - Teaching Mathematics to Elementary School Learners, Grades K-2 (3)
MAED 3224 - Teaching Mathematics to Elementary School Learners, Grades 3-6 (3)
READ 3224 - Teaching Foundational Literacy Skills (3)
READ 3226 - Applied Literacy and Practices (3)
READ 4161 - Assessment, Design, and Implementation of Classroom Reading Instruction (3)

**Related Courses (3 credit hours)**

Select one creative arts activity course from the following, with a different area of emphasis from the Global and Local Themes Requirements (1502/1512):

ARTE 2121 - Integrating Art Across the Curriculum (3)
MUSC 1102 - Fundamentals of Musicianship (3) -
MUSC 2191 - Incorporating Music Into the Elementary Classroom (3)
THEA 1265 - Introduction to Stage Performance (3)
THEA 1360 - Applied Theatre in Communities and Schools (3)
Others approved by the advisor

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Academic Advising

Freshmen and Sophomores who intend to major in Elementary Education are classified as Pre-Education students in Elementary Education. They are assigned an advisor in the College's Office of Teacher Education Advising and Licensure (TEAL), who helps them select appropriate General Education and minor courses, and also helps them meet the requirements for admission to teacher education. Upon admission to the Teacher Education Program in Elementary Education, which typically occurs at the end of the Sophomore year, students will be advised in the Elementary Education Advising Center.

*Note: Elementary education courses are available on a very limited basis in the summer.*

## Progression Requirements

For a degree to be conferred, students must successfully complete all program requirements which include:

- Minimum GPA of 2.7 to declare major
- Minimum GPA of 2.5 must be maintained to remain enrolled
- Students should plan to take EDUC 1100/EDUC 1511 and SPED 2100 during Freshman Year.
- Grades in professional education courses must be C or above
- Minimum overall GPA in professional education courses must be 2.75
- Students may repeat a professional course once.

**Requirements for Licensure and Graduation**

- A grade of P in student teaching with recommendation from Cooperating Teacher, University Supervisor, and Principal is required for licensure and graduation.

- Passing score on edTPA is required for licensure and graduation.

## Admission to Upper Division

- *Minimum Overall GPA:* 2.7
- *Pre-Major/Prerequisite Courses:* A minimum of 30 credit hours in approved college-level courses, and a grade of C or above in the following:
    - EDUC 1100 or EDUC 1511**
    - SPED 2100**
- A passing score on the Praxis Core exam or acceptable alternatives (SAT or ACT scores)
- Completion and clearance on the Criminal Background Check
- Signed Statement of Commitment to Professional Dispositions

## Special Policies or Requirements

The successful completion of a degree in Elementary Education includes meeting the North Carolina Department of Public Instruction's licensure requirements for K-6 certification. Consequently, additional requirements must be completed during the student's program and are listed below. Since state licensure requirements often change, additional work may be required to complete the program with a teaching license.

### Planning Sheet

All education students are tracked through their program with a Program Planning Sheet. The original planning sheet is uploaded to the advising system and lists all courses taken, transfer hours, General Education and minor requirements met, and courses remaining in the program. Note that the University requires that the minimum number of credits in a degree program is 120 credit hours.

### Clinicals

All courses in the professional program include a clinical requirement where students complete specific activities or designated hours in an elementary school. Clinicals are designed to expose students to diverse school demographics, locations, and programs.

## Honors Program

For details about the Honors Program in Education, see the beginning of the Cato College of Education section.

## Internship

Teacher education candidates participate in the yearlong internship during their final year of the program. During the first semester, students spend one day per week in an assigned classroom while completing coursework on campus. During the second semester of the internship, students complete full-time student teaching in the same classroom. Applications for this yearlong internship are due two semesters before student teaching.

# Minor in Applied Understandings in Global Education

The Minor in Applied Understandings in Global Education is designed for candidates seeking a Major in Elementary, Middle Grades, Secondary, or Special Education who wish to prepare K-12 students to be effective and responsible citizens in a global society. The minor is focused upon providing candidates with opportunities to gain knowledge of the world, engage in problem solving and critical thinking around significant global issues, and develop skills in viewing events and issues from diverse global perspectives.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

See University Admission Requirements

Advising and admission to the minor are administered through the Office of Teacher Education Advising and Licensure (TEAL). Candidates interested in pursuing the Minor in Applied Understandings in Global Education must have a minimum overall GPA of 2.5 and be approved for admission to the minor by demonstrating the potential for academic achievement commensurate with Cato College of Education program admission requirements. After admission into the minor, advising is offered through the Department of Reading and Elementary Education.

## Minor Requirements

The Minor in Applied Understandings in Global Education requires the completion of 18 credit hours of specialized coursework. The minor is designated to be coordinated with coursework in the student's major.

**Phase I: Introduction to Diversity Courses (6 credit hours)**

EDUC 1100 - Foundations of Education and Diversity in Schools – Prospect Curriculum (4)
or EDUC 1511 - Local Social Science: Public Education and Schooling in the U.S. (3)
INTL 1101 - Introduction to International Studies (3)

**Phase II: Global Studies Courses (6 credit hours)**

***Required Global Studies Course***

CTCM 2530 – Interdisciplinary Critical Thinking and Communication (3)

***Elective Global Studies Course***

*Select one of the following:*

INTL 2100 - Introduction to Holocaust, Genocide, and Human Rights Studies (3)
INTL 2121 - Introduction to Development Studies (3)
INTL 2131 - Introduction to Peace, Conflict, and Identity Studies (3)

*Note: Other INTL courses may be considered with approval of the advisor.*

**Phase III: Applied Understandings Courses (6 credit hours)**

EDUC 4200 - Current Issues in Global Education (3)
EDUC 4201 - Education and Globalization: Theory and Practice (3)

## Minor Total = 18 Credit Hours

## Progression Requirements

All courses applied to the Minor in Applied Understandings in Global Education require a grade of C or above, and students must earn an overall GPA of 2.5 or above in courses applied to the minor.

# Minor in Reading Education

A Minor in Reading Education requires the completion of 18 credit hours of specialized coursework. This program is designed for students already seeking initial license in another content area who wish to gain expertise in reading methods in the K-12 public school setting. Students in this minor may also apply for Early Entry into the M.Ed. in Reading Education program.

## Admission Requirements

**Freshmen and Transfers**

- See University Admission Requirements
- Students wishing to Minor in Reading Education must be approved for admission to the minor by meeting statewide teacher education program admission requirements. Advising and admission to the minor are administered through the Office of Teacher Education Advising and Licensure (TEAL) in the College of Education. The criteria for admission include:
  - 30 earned credit hours
  - Overall GPA of 2.7 or above
  - Major or minor in an initial licensure area
  - Grades of C or above in either:
    - MDSK 2100
    - EDUC 1100/EDUC 1511 and SPED 2100
  - A passing score on the Praxis Core exam or acceptable alternatives (SAT or ACT scores)
  - Signed Statement of Commitment to Professional Dispositions
  - Pass a criminal background check (completed at time of application in TEAL)

After admission to the minor, advising is offered through the Reading and Elementary Education Department in collaboration with advising in the student's major department. Contact the School of Education or advising.

Declaring the minor also requires admission to a major or minor in a subject area for which there is teacher licensure (Elementary Education, Special Education, Secondary or Middle Grades Education, Foreign Language Education, etc.).

The minor is designed to be coordinated with coursework in the major, with the final semester as the student teaching semester. Successful completion of the minor and passing licensure testing requirements leads to a recommendation for North Carolina add-on K-12 license in Reading.

## Minor Requirements

**Core Courses (9 credit hours)**

READ 3224 - Teaching Foundational Literacy Skills (3)
READ 3226 - Applied Literacy and Practices (3)
READ 4161 - Assessment, Design, and Implementation of Classroom Reading Instruction (3)
or SPEL 3173 - Assessment in Special Education and Elementary Education (3)

**Elective Courses (9 credit hours)**

***Explorations of Traditional and New Literacies (3 credit hours)***

*Select one of the following:*

ENGL 2109 - Children's Literature, Media, and Culture (3)
ENGL 3102 - Literature for Young Children (3)
ENGL 3103 - Children's Literature (3)
ENGL 3104 - Literature for Adolescents (3)
ENGL 4102 - Classics in British Children's Literature (3)
ENGL 4103 - Classics in American Children's Literature (3)
ENGL 4104 - Multiculturalism and Children's Literature (3)

*Note: ENGL courses may be taken prior to admission to the minor.*

***Meeting the Needs of Unique Readers (3 credit hours)***

*Select one of the following:*

SPED 4275 - Teaching Reading to Elementary Learners (3)
SPED 4276 - Teaching Reading to Middle and Secondary Learners (3)
SPED 4277 - Teaching Written Expression to K-12 Learners (3)
TESL 4204 - Learning, Schools, and Community (3)
TESL 4205 - Second Language Acquisition and Linguistics in K-12 Schools (3)
TESL 4600 - Literacy Development for Second Language Learners (3)

***Extending Literacy Pedagogy (3 credit hours)***

*Select one of the following:*

READ 3255 - Integrating Reading and Writing Across Content Areas (3)
READ 4205 - Reading and Writing Across Digital Spaces (3)
READ 4270 - Investigating Reading Curriculum (3)

## Progression Requirements

For a degree to be conferred, students must successfully complete all program requirements which include:

- Grades of C or above in all professional education courses
- Maintain an overall GPA of 2.5 or higher

**Recommendation for Licensure**

- A grade of P in student teaching with recommendation from Cooperating Teacher, University Supervisor, and Principal

## Total = 18 Credit Hours

# Early Entry: Graduate Certificate in Elementary Mathematics Education

Exceptional undergraduate students at UNC Charlotte may apply to either of these Early Entry Programs to begin work toward a graduate degree before completion of the baccalaureate degree.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

## Progression Requirements

- Completion of Early Entry Program Form, and approved by the Graduate Program Director prior to registering for graduate coursework each semester

- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree.

### Special Policies or Requirements

Up to 6 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 6 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for these degree programs, see the individual program listings in the *Graduate Catalog*.

## Early Entry: Master of Education in Reading Education

Exceptional undergraduate students at UNC Charlotte may apply to either of these Early Entry Programs to begin work toward a graduate degree before completion of the baccalaureate degree.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 60 undergraduate credit hours (although it is expected that close to 75 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

### Progression Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

### Special Policies or Requirements

Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees). For Elementary Education students in the Minor in Education program, the following 9 hours may count towards both the minor and M.Ed. in Reading:

| Undergraduate Course | Graduate Course Substitute |
|---|---|
| Exploration of Traditional and New Literacies requirement | READ 6300 - Global Literacy in a Multicultural World: Genre Study (3) |
| Meeting the Needs of Unique Readers requirement | READ 6204 - Teaching Reading to English Language Learners (3) |
| READ 3255 - Integrating Reading and Writing Across Content Areas (3) | READ 6252 - K-12 Writing Development and Instruction (3)<br>or READ 6255 - Middle/Secondary Reading and Writing (3) |
| READ 4270 - Investigating Reading Curriculum (3) | READ 6252 - K-12 Writing Development and Instruction (3)<br>or READ 6255 - Middle/Secondary Reading and Writing (3) |

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for these degree programs, see the individual program listings in the *Graduate Catalog*.

# Department of Special Education and Child Development

spcd.charlotte.edu

## Undergraduate Programs

- **B.A. in Early Childhood Education and Intervention**
- **B.A. in Special Education**
- **B.A. in Special Education General Curriculum and Elementary Education K-6 Dual Program**
- **Minor in Collaborative Educators in Inclusive Schools**
- **Minor in Early Childhood Education and Intervention**
- **Minor in Inclusion, Disability, and Exceptionalities in American Society**
- **Early Entry: Graduate Certificate in Academically or Intellectually Gifted**
- **Early Entry: M.Ed. in Special Education and Child Development, Child and Family Studies Concentration**

The mission of the Department of Special Education and Child Development is to prepare highly effective and ethical professionals who have a positive impact on children, youth, families, community, and schools and who are successful in urban and other settings. This mission is accomplished through teaching, research, and community engagement that lead to improved practice and by working in partnership with schools, communities, and university colleagues.

The goals of the Special Education and Child and Family Development programs are to:

- Provide instruction at the undergraduate, masters, and doctoral levels that models high-leverage practices and challenges learners to aspire to excellence
- Generate and synthesize knowledge through quality research that informs the preparation programs of the Department
- Provide genuine and meaningful service to the public schools and other service providers that informs the preparation programs of the Department

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

# Bachelor of Arts in Early Childhood Education and Intervention

The B.A. degree in Early Childhood Education and Intervention prepares graduates to work in educational and related settings that serve infants, toddlers, preschoolers, and kindergartners with and without disabilities, and their families. The program qualifies graduates for the Standard Professional 1 (SP1) Professional Educator's License in birth-kindergarten (B-K) education.

Graduates of the program are prepared to meet the North Carolina Professional Teaching Standards and the ten Interstate New Teachers Assessment and Support Consortium (INTASC) Standards for new teachers in Content Pedagogy, Student Development, Diverse Learners, Multiple Instructional Strategies, Motivation and Management, Communication and Technology, Planning, Assessment, Reflective Practice, and School and Community Involvement. Candidates have specific coursework and clinical experiences in a variety of settings in order to learn and apply evidence-based knowledge and practices in the field of early childhood development, early intervention, early childhood special education and education.

**4-Year Program**

## Admission Requirements (Pre-Education)

**Freshmen**

- See University Admission Requirements
- *Minimum Overall GPA:* 2.7
- *Pre-Major/Prerequisite Courses:* A minimum of 30 credit hours in approved college-level courses, and a grade of C or above in the following:
  - EDUC 1100 or EDUC 1511
  - SPED 2100
- A passing score on the Praxis Core exam or acceptable alternatives (SAT or ACT scores)
- Completion and clearance on the Criminal Background Check
- Signed Statement of Commitment to Professional Dispositions

**Currently Enrolled Students**

- *Declaration of Major:* The Early Childhood Education and Intervention major is intended to be started in the first semester of Junior year. Students should plan to declare the major no later than the second semester of the Sophomore year. Students must complete an "Application for Admission to a Teacher Education Program" in the Office of Teacher Education Advising and Licensure (TEAL) in the Cato College of Education. Students must apply for admission to a specific teacher education program and complete the admissions process in order to enroll in any professional education courses at the 3000 level or above.

## Degree Requirements

The Major in Early Childhood Education and Intervention leading to the B.A. degree requires a minimum of 120 credit hours.

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major

with departmental approval. Please see your advisor for information. Students in this major should plan on taking the following courses that meet general education requirements and also satisfy prerequisites for courses in the major:

PSYC 1101 - General Psychology (3)
SOCY 15xx – Themes Requirement (3)

**Foundation Courses (15-16 credit hours)**
ECEI 2111 - Theoretical Foundations of Early Childhood Care and Education (3)
ECEI 2113 - Introduction to Early Childhood Development and Developmentally Appropriate Practice (DAP) (3)
ECEI 2114 - Understanding Families: Theoretical Perspectives, Foundations, and Practice (3)
EDUC 1511 - Local Social Science: Public Education and Schooling in the U.S. (3)
or EDUC 1100 - Foundations of Education and Diversity in Schools - Prospect Curriculum (4)
SPED 2100 - Exceptionality in Schools and Society (3)

*Note: SPED 2100 and either EDUC 1100 or EDUC 1511 should be taken no later than a student's Sophomore year. Both courses must be completed with a grade of C or above to qualify for admission to the Teacher Education Program in Early Childhood Education and Intervention program.*

**Major Courses (54 credit hours)**
ELDT 4100 - Foundations for Effective Technology Integration (3)

Admission to Teacher Education and advisor approval are required in order to register for any of the following courses:

ECEI 2412 - Clinical I: Applied Early Learning in Childhood Settings (3)
ECEI 3112 - Supporting Young Learners - Birth through Kindergarten: Introductory Methods (3)
ECEI 3114 - Advanced Infant-Toddler Methods 0-3 (3)
ECEI 3210 - Enhancing the Social-Emotional Development of Young Children in Inclusive Settings (3)
ECEI 3412 - Clinical II: Applied Learning in Early Childhood Settings (3)
ECEI 4111 - Foundations of Early Intervention and Early Childhood Special Education (3)
ECEI 4112 - Assessment of Young Children with Disabilities: B-K (3)
ECEI 4114 - Language, Literacy, and Mathematical Thinking of Young Children: Birth-Kindergarten (3)
ECEI 4118 - Interdisciplinary and Family-Professional Partnerships (3)
ECEI 4205 - Integrated Instructional Applications (3)
ECEI 4210 - Developmental Interventions for Young Children with Disabilities: Birth through Kindergarten (3)
ECEI 4410 - Student Teaching/Seminar: B-K Early Childhood Education and Intervention (15)
ECEI 4412 - Clinical III: Applied Learning in Early Childhood Settings (3)

*Note: Enrollment in ECEI 4410 requires admission to student teaching through the College's Office of School and Community Partnerships.*

**Restricted Elective Courses (18 credit hours)**
*Select six of the following. Please note that some courses may have prerequisites.*

***Sociology Courses***
SOCY 2132 - Sociology of Marriage and the Family (3)
SOCY 2133 - Sociology of Marriage and Family - Writing Intensive (3)
SOCY 3134 - Families and Aging (3)
SOCY 3169 - Sociology of Health and Illness (3)
SOCY 4110 - Sociology of Aging (3)
SOCY 4111 - Social Inequality (3)
SOCY 4112 - Sociology of Work (3)
SOCY 4115 - Organizational Sociology (3)
SOCY 4124 - Sociology of the Community (3)
SOCY 4125 - Urban Sociology (3)
SOCY 4131 - Family Policy (3)
SOCY 4135 - Sociology of Education (3)
SOCY 4150 - Older Individual and Society (3)
SOCY 4160 - Evolution and Gender (3)
SOCY 4165 - Sociology of Women (3)
SOCY 4168 - Sociology of Mental Health and Illness (3)
SOCY 4172 - Sociology of Deviant Behavior (3)
SOCY 4173 - Sociology of Deviant Behavior - Writing Intensive (3)
SOCY 4265 - Social Psychology of Law (3)
Other 4000-level SOCY course with approval

***Psychology Courses***
PSYC 2340 - Psychology of Adjustment (3)
PSYC 2350 - Introduction to Social Psychology (3)
PSYC 2370 - Child Development (3)
PSYC 2371 - Adolescent Development (3)
PSYC 3355 - Psychological Approaches to Diversity (3)
PSYC 3356 - Psychology of Women and Gender (3)
Other 2000-level PSYC course that relates to cognitive, social, and/or personality development with approval

***Teaching English as a Second Language Courses***
TESL 4103 - Methods in Teaching English as a Second Language (3)
TESL 4204 - Learning, Schools, and Community (3)
TESL 4600 - Literacy Development for Second Language Learners (3)

***Children's Literature and Childhood Studies Minor Courses***
ENGL 2074 - Topics in Children's/YA Literature, Culture, and/or Media (3)
ENGL 3102 - Literature for Young Children (3)
ENGL 4103 - American Children's Literature (3)
ENGL 4104 - Multiculturalism and Children's Literature (3)
ENGL 4263 - Linguistics and Language Learning (3)
MUSC 2191 - Incorporating Music Into the Elementary Classroom (3)
PHIL 3940 - Philosophy of Education (3)
THEA 4360 - Theatre for Young Audiences (3)
WGST 3130 - Perspectives on Motherhood (3)

***Public Health Minor Courses***
AFRS 3261 - Psychology of the Black Experience (3)
ANTH 3122 - Culture, Health, and Disease (3)
ANTH 3222 - Culture, Health, and Disease (3)
ANTH 4131 - Culture, Pregnancy, and Birth (3)
HLTH 3101 - Foundations of Public Health (3)
PHIL 3230 - Healthcare Ethics (3)

POLS 3125 - Healthcare Policy (3)
NURS 4191 - Women's Health Issues (3)
WGST 4191 - Women's Health Issues (3)

***Other Approved Elective Courses***
ANTH 15xx – Themes Requirement (3)
AMST 3210 - Childhood in America (3)
ARTE 2121 - Integrating Art Across the Curriculum (3)
ECEI 4200 - Child Life: Supporting Children and Families (3)
RELS 3215 - Religion and Sexuality (3)
PSYC 2360 - Introduction to Health Psychology (3)
SPAN 1201 - Elementary Spanish I (4) *(or other foreign language courses approved by advisor)*
WGST 1101 - Introduction to Women's Studies (3)
WGST 3160 - Gender and Education (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements: 4-Year Program
For a degree to be conferred, students must successfully complete all program requirements which include:

- Minimum GPA of 2.7 to declare major
- Minimum GPA of 2.5 must be maintained to remain enrolled
- Students should plan to take EDUC 1100/EDUC 1511 and SPED 2100 during freshman year.
- Students should plan to take ECEI 2111, ECEI 2113, and ECEI 2114 during sophomore year.
- Grades in professional education courses must be C or above.
- Minimum overall GPA in professional education courses must be 2.75
- Students may repeat a professional course once.
- Students may be dropped from a course if they register out of sequence.

**Requirements for Licensure and Graduation**
- A grade of P in student teaching with recommendation from Cooperating Teacher, University Supervisor, and Principal is required for licensure and graduation.
- Passing score on edTPA is required for licensure and graduation.

## Admission to Upper Division
- *Minimum Overall GPA:* 2.7
- *Pre-Major/Prerequisite Courses:* A minimum of 30 credit hours in approved college-level courses, and a grade of C or above in the following:
    - EDUC 1100 or EDUC 1511
    - SPED 2100
- A passing score on the Praxis Core exam or acceptable alternatives (SAT or ACT scores)
- Completion and clearance on the Criminal Background Check
- Signed Statement of Commitment to Professional Dispositions

## Special Policies or Requirements: 4-Year Program
The successful completion of this degree program includes meeting the North Carolina Department of Public Instruction's licensure requirements for certification. Consequently, additional requirements must be completed during the student's program and are listed below. Since state licensure requirements often change, additional work may be required to complete the program with a teaching license.

**Planning Sheet**
All education students are tracked through their program with a Program Planning Sheet. The original planning sheet is uploaded to the advising system and lists all courses taken, transfer hours, General Education and minor requirements met, and courses remaining in the program. Note that the University requires that the minimum number of credits in a degree program is 120 credit hours.

**Clinicals**
There are designated courses in the professional program that include a clinical requirement where students complete specific activities or designated hours in an appropriate setting. Clinical courses are designed to expose students to diverse school demographics, locations, and programs.

# AAS Degree Completion Program

## Admission Requirements (Pre-Education)
**Transfers**
- See University Admission Requirements
- *Minimum GPA*: Overall 2.7 and minimum 2.5 on all courses taken at the community college
- *Degrees*: A.A.S. degree in Early Childhood Education or similar title with curriculum acceptable to the department with 60-64 credit hours of coursework (transfer applicants not having the A.A.S. degree or its equivalent must meet University admission requirements)
- *Pre-Major/Prerequisite Courses*:
    - EDUC 1100 or EDUC 1511 (with grade of C or above by the end of the semester of application or the equivalent transferred community college courses)
    - SPED 2100 (with grade of C or above by the end of the semester of application or the equivalent transferred community college courses)
    - Prerequisite background courses for the program (a limited number of such background courses may be made up by taking them at UNC Charlotte)
    - A minimum of 31 credit hours in General Education courses that are taken as part of all North Carolina A.A.S. Early Childhood Education programs, plus additional University General Education requirements that may not be part of A.A.S. degree but are required to earn a Bachelor degree in Birth-Kindergarten (B-K) teaching licensure program
        - A.A.S. degree in Early Childhood (Licensure Track) with 31 credit hours of General Education courses follows the AAS Degree Completion Program Articulation Plan

    - A.A.S. degree in Early Childhood (Non-Licensure Track) without 31 credit hours of General Education credits must complete additional General Education credits to meet the 31 credit hour requirement
- A passing score on the Praxis Core exam or acceptable alternatives (SAT or ACT scores)
- Completion and clearance on the Criminal Background Check
- Signed Statement of Commitment to Professional Dispositions

**Currently Enrolled Students**

- *Declaration of Major:* Students must complete an "Application for Admission to a Teacher Education Program" in the Office of Teacher Education Advising and Licensure (TEAL) in the Cato College of Education. Students must apply for admission to a specific teacher education program and complete the admissions process in order to enroll in any professional education courses at the 3000 level or above.

## Degree Requirements

The B.A. Early Childhood Education and Intervention AAS Degree Completion Program for transfer students consists of a minimum of 60 credit hours.

**A.A.S. Degree (60-64 credit hours)**
**General Education Courses**
For details on required courses, refer to the General Education Program. Some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Major Courses (51 credit hours)**
Admission to Teacher Education and advisor approval are required in order to register for any of the following courses:

ECEI 2412 - Clinical I: Applied Early Learning in Childhood Settings (3)
ECEI 3112 - Supporting Young Learners - Birth through Kindergarten: Introductory Methods (3)
ECEI 3114 - Advanced Infant-Toddler Methods 0-3 (3)
ECEI 3210 - Enhancing the Social-Emotional Development of Young Children in Inclusive Settings (3)
ECEI 3412 - Clinical II: Applied Learning in Early Childhood Settings (3)
ECEI 4111 - Foundations of Early Intervention and Early Childhood Special Education (3)
ECEI 4112 - Assessment of Young Children with Disabilities: B-K (3)
ECEI 4114 - Language, Literacy, and Mathematical Thinking of Young Children: Birth-Kindergarten (3)
ECEI 4118 - Interdisciplinary and Family-Professional Partnerships (3)
ECEI 4205 - Integrated Instructional Applications (3)
ECEI 4210 - Developmental Interventions for Young Children with Disabilities: Birth through Kindergarten (3)
ECEI 4410 - Student Teaching/Seminar: B-K Early Childhood Education and Intervention (15) **
ECEI 4412 - Clinical III: Applied Learning in Early Childhood Settings (3)

***Enrollment in ECEI 4410 requires admission to student teaching through the College's Office of School and Community Partnerships.*

**Restricted Elective Courses (9 credit hours)**
Select three courses from the options in the 4-Year Program above.

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements: AAS Degree Completion Program

For a degree to be conferred, students must successfully complete all program requirements which include:

- Minimum GPA of 2.7 to declare major
- Minimum GPA of 2.5 must be maintained to remain enrolled.
- Grades in professional education and concentration courses must be C or above.
- Minimum overall GPA in professional education and concentration courses must be 2.75.
- Students may repeat a professional course once.
- Students may be dropped from a course if they register out of sequence.

**Requirements for Licensure and Graduation**

- A grade of P in student teaching with recommendation from Cooperating Teacher, University Supervisor, and Principal is required for licensure and graduation.
- Passing score on edTPA is required for licensure and graduation

## Admission to Upper Division

- *Minimum Overall GPA:* 2.7
- *Pre-Major/Prerequisite Courses:* A minimum of 30 credit hours in approved college-level courses, and a grade of C or above in the following:
    - EDUC 1100 or EDUC 1511
    - SPED 2100
- A passing score on the Praxis Core exam or acceptable alternatives (SAT or ACT scores)
- Completion and clearance on the Criminal Background Check
- Signed Statement of Commitment to Professional Dispositions

## Special Policies or Requirements: AAS Degree Completion Program

The successful completion of this degree program includes meeting the North Carolina Department of Public Instruction's licensure requirements for B-K certification. Consequently, additional requirements must be completed during the student's program and are listed below. Since state licensure requirements often change, additional work may be required to complete the program with a teaching license.

**Planning Sheet**
All education students are tracked through their program with a Program Planning Sheet. The original planning sheet is uploaded to the

advising system and lists all courses taken, transfer hours, General Education and minor requirements met, and courses remaining in the program. Note that the University requires that the minimum number of credits in a degree program is 120 credit hours. The B.A. in Early Childhood Education and Intervention 2+2-year degree program for transfer students consists of a minimum of 60 credit hours.

### Clinicals

There will be designated courses in the professional program that serve as a clinical requirement where students complete specific activities or designated hours in an appropriate setting. Clinicals are designed to expose students to diverse school demographics, locations, and programs.

### Internship

Teacher education candidates participate in the yearlong internship during their final year of the program. During the first semester, students spend a minimum of one day per week in an assigned classroom while completing coursework on campus. During the second semester of the internship, students complete full-time student teaching in the same classroom. Applications for this yearlong internship are due two semesters prior to student teaching; part two of the application is due one semester prior to student teaching.

### Additional Information for AAS Degree Completion Program/Articulation Program

- *Academic Advising:* Students who intend to major in Early Childhood Education (ECEI) and Intervention and to earn B-K licensure are classified as Pre ECEI majors. These students are assigned an advisor in the Office of Teacher Education Advising and Licensure (TEAL), who help students select appropriate General Education and elective courses, and who will help them meet the requirements for admission to teacher education. To be admitted to the Teacher Education Program in ECEI, students must have completed an admission application through the TEAL office, attained a grade of C or above in SPED 2100 and either EDUC 1100 or EDUC 1511, attained passing scores on all three parts of the Praxis Core or acceptable alternatives (SAT or ACT scores), and attained an overall GPA of at least 2.7 in at least 31 credit hours of coursework.
- Applications for admission to the Teacher Education Program in Early Childhood Education and Intervention are available from and are to be returned to the TEAL office after a student has earned at least 31 credit hours of coursework. Students are then assigned a major advisor in ECEI who assists planning the remainder of the program of study. Course selections for each subsequent semester must be approved by the student's advisor in Child and Family Development. Assignment of the student's major advisor is the responsibility of the ECEI Undergraduate Program Director in the Department of Special Education and Early Childhood Education and Intervention.

### Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Additional Information for the 4-Year and AAS Degree Completion Programs

### Academic Advising

Students who intend to major in Early Childhood Education and Intervention and to earn B-K licensure are classified as Pre-Education students in Early Childhood Education and Intervention. These students are assigned an advisor in the Office of Teacher Education Advising and Licensure (TEAL), who help students select appropriate General Education and elective courses, and who will help them meet the requirements for admission to teacher education. To be admitted to the Teacher Education Program in Early Childhood Education and Intervention, students must have completed an admission application through the TEAL office, attained a grade of C or above in SPED 2100 and either EDUC 1100 or EDUC 1511, attained passing scores on all three parts of the Praxis Core or acceptable alternatives (SAT or ACT scores), and attained an overall GPA of at least 2.7 in at least 45 credit hours of coursework.

Applications for admission to the Teacher Education Program in Early Childhood Education and Intervention are available from and are to be returned to the TEAL office after a student has earned at least 45 credit hours of coursework. Students are then assigned a major/minor advisor in Early Childhood Education and Intervention who assists planning the remainder of the program of study. Course selections for each subsequent semester must be approved by the student's advisor in child and family development. Assignment of the student's major/minor advisor is the responsibility of the Child and Family Development Undergraduate Program Director in the Department of Special Education and Early Childhood Education and Intervention.

### Progression Requirements

All students with an education major must maintain a 2.5 GPA overall and a 2.75 GPA in their professional courses. All professional courses must be passed with a grade of C or above, and students may repeat a professional course once. Students may be dropped from a course if they register out of sequence.

### Special Policies or Requirements

The successful completion of this degree program includes meeting the North Carolina Department of Public Instruction's licensure requirements for B-K certification. Consequently, additional requirements must be completed during the student's program and are listed below. Since state licensure requirements often change, additional work may be required to complete the program with a teaching license.

### Planning Sheet

All education students are tracked through their program with a Program Planning Sheet. The original planning sheet is uploaded to the advising system and lists all courses taken, transfer hours, General Education and minor requirements met, and courses remaining in the program. Note that the University requires that the minimum number of credits in a degree program is 120 credit hours.

### Clinicals
Some courses in the professional program include a clinical requirement where students complete specific activities or designated hours in an appropriate setting. Clinicals are designed to expose students to diverse school demographics, locations, and programs.

## Honors Program
For details about the Honors Program in Education, see the beginning of the Cato College of Education section.

## Internship
Teacher education candidates participate in the yearlong internship during their final year of the program. During the first semester, students spend a minimum of one day per week in an assigned classroom while completing coursework on campus. During the second semester of the internship, students complete full-time student teaching in the same classroom. Applications for this yearlong internship are due two semesters prior to student teaching; part two of the application is due one semester prior to student teaching.

# Bachelor of Arts in Special Education
The B.A. in Special Education program includes a choice of one of two licensure areas: (1) the Special Education: General Curriculum license or (2) the Special Education: Adapted Curriculum license. The Special Education: General Curriculum license qualifies graduates for the Standard Professional 1 (SP1) Professional Educator's License to teach children with special needs in grades K-12 with mild disabilities (i.e., learning disabilities, mild intellectual disability, and emotional/behavioral disabilities). The Special Education: Adapted Curriculum license qualifies graduates for the Standard Professional 1 (SP1) Professional Educator's License to teach children with special needs in grades K-12 with severe disabilities (i.e., significant cognitive disabilities, multiple disabilities).

Graduates of the program are prepared to: provide individually planned, systematically implemented, and carefully evaluated instruction for students with special needs; provide educational services to students with special needs in general classrooms, resource classrooms, and other educational settings; and help students with special needs achieve the greatest possible personal self-sufficiency and success in present and future environments. Graduates of the program are prepared to meet the North Carolina Professional Teaching Standards and the ten Interstate New Teachers Assessment and Support Consortium (INTASC) Standards for new teachers in Content Pedagogy, Student Development, Diverse Learners, Multiple Instructional Strategies, Motivation and Management, Communication and Technology, Planning, Assessment, Reflective Practice, and School and Community Involvement. Graduates have specific coursework and clinical experiences in a variety of settings in order to learn and apply evidence-based knowledge and practices in the field of special education.

## Admission Requirements (Pre-Education)
### Freshmen and Transfers
- See University Admission Requirements
- *Minimum Overall GPA:* 2.7
- *Pre-Major/Prerequisite Courses:* A minimum of 30 credit hours in approved college-level courses, and a grade of C or above in the following:
  - EDUC 1100 or EDUC 1511
  - SPED 2100
- A passing score on the Praxis Core exam or acceptable alternatives (SAT or ACT scores)
- Completion and clearance on the Criminal Background Check
- Signed Statement of Commitment to Professional Dispositions

### Currently Enrolled Students
- *Declaration of Major:* The Special Education major is intended to be started in the first semester of the Junior year. Students should plan to declare the major no later than the second semester of the Sophomore year. Students must complete an "Application for Admission to a Teacher Education Program" in the Office of Teacher Education Advising and Licensure (TEAL) in the Cato College of Education. Students must apply for admission to a specific teacher education program and complete the admissions process in order to enroll in any professional education courses at the 3000 level or above.

## Degree Requirements
The Major in Special Education leading to the B.A. degree requires a minimum of 120 credit hours.

### General Education Courses (31-32 credit hours)
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information. Students in this major should plan on taking the following course that meets general education requirements and also satisfies prerequisites for courses in the major:

PSYC 1101 - General Psychology (3)

### Foundation Courses (6-7 credit hours)
EDUC 1511 - Local Social Science: Public Education and Schooling in the U.S. (3)*
or EDUC 1100 - Foundations of Education and Diversity in Schools - Prospect Curriculum (4)*
SPED 2100 - Exceptionality in Schools and Society (3)*

**SPED 2100 and either EDUC 1100 or EDUC 1511 should be taken no later than a student's Sophomore year. Both courses must be completed with a grade of C or above to qualify for admission to the Teacher Education Program in Special Education.*

### Major Courses (57-63 credit hours)
***Core Courses (36 credit hours)***
Admission to Teacher Education and advisor approval are required in order to register for any of the following courses:

ELDT 4100 - Foundations for Effective Technology Integration (3)
SPED 3100 - Critical Issues in Special Education (3)
SPED 3173 - Assessment in Special Education (3)
SPED 3175 - Instructional Planning in Special Education (3)
SPED 4270 - Classroom Management (3)
SPED 4272 - Teaching Mathematics to K-12 Learners (3)
SPED 4275 - Teaching Reading to Elementary Learners (3)
SPED 4277 - Teaching Written Expression to K-12 Learners (3)
SPED 4318 - Collaboration and Transition-Focused Education (3)

SPED 4400 - Integrated Instructional Applications in Special Education (3)
TESL 4204 - Learning, Schools, and Community (3)

*Plus select one of the following:*
PSYC 2117 - Introduction to Lifespan Development (3)
SOCY 4135 - Sociology of Education (3)

***Licensure Courses (21-27 credit hours)***
*Select one of the following licensure areas:*

*General Curriculum License Courses (21 credit hours)*
SPED 4276 - Teaching Reading to Middle and Secondary Learners (3)
SPED 4279 - Content Area Instruction for Inclusive Classrooms (3)
SPED 4475 - Student Teaching/Seminar: Special Education K-12: General Curriculum (15) **

*Adapted Curriculum License Courses (27 credit hours)*
SPED 4271 - Systematic Instruction in the Adapted Curriculum (3)
SPED 4274 - General Curriculum Access and Adaptations (3)
SPED 4280 - Instruction and Support for Learners with Extensive Support Needs (3)
SPED 4281 - Communication Instruction for Students with Extensive Support Needs (3)
SPED 4476 - Student Teaching/Seminar: Special Education K-12: Adapted Curriculum (15) **

***Enrollment in SPED 4475 or SPED 4476 requires admission to student teaching through the College's Office of School and Community Partnerships..*

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

It is recommended that students take content courses that will enable them to be labeled as "Highly Qualified" to teach content courses within a Special Education setting. Students should see an advisor for additional recommendations.

## Degree Total = 120 Credit Hours

## Academic Advising
Freshmen and Sophomores who intend to major in Special Education are classified as Pre-Education students in Special Education. These students are assigned an advisor in the Office of Teacher Education Advising and Licensure (TEAL), who help students select appropriate General Education and elective courses, and who will help them meet the requirements for admission to teacher education. To be admitted to the Teacher Education Program in Special Education, students must have completed an admission application through the TEAL office, attained a grade of C or above in SPED 2100 and either EDUC 1100 or EDUC 1511, attained passing scores on all three parts of the Praxis Core test or acceptable alternatives (SAT or ACT scores), and attained an overall GPA of at least 2.7 in at least 30 credit hours of coursework.

Applications for admission to the Teacher Education Program in Special Education are available from and are to be returned to the TEAL office after a student has earned at least 30 credit hours of coursework. Students are then assigned a major advisor in special education who assists planning the remainder of the program of study, including selection of either one of the two licensure areas, or both licensure areas. Course selections for each subsequent semester must be approved by the student's advisor in special education.

## Progression Requirements
For a degree to be conferred, students must successfully complete all program requirements which include:

- Minimum GPA of 2.7 to declare major
- Minimum GPA of 2.5 must be maintained to remain enrolled.
- Students should plan to take EDUC 1100 / EDUC 1511 and SPED 2100 during Freshman Year.
- Students should plan to be admitted to upper division before Junior Year.
- Grades in professional education courses must be C or above
- Minimum overall GPA in professional education courses must be 2.75.
- Students may repeat a professional course once.

**Requirements for Licensure and Graduation**

- A grade of P in student teaching with recommendation from Cooperating Teacher, University Supervisor, and Principal is required for licensure and graduation.
- Passing score on edTPA is required for licensure and graduation

## Special Policies or Requirements
The successful completion of this degree program includes meeting the North Carolina Department of Public Instruction's licensure requirements for K-12 certification. Consequently, additional requirements must be completed during the student's program and are listed below. Since state licensure requirements often change, additional work may be required to complete the program with a teaching license.

**Planning Sheet**
All education students are tracked through their program with a Program Planning Sheet. The original planning sheet is uploaded to the advising system and lists all courses taken, transfer hours, General Education and minor requirements met, and courses remaining in the program. Note that the University requires that the minimum number of credits in a degree program is 120 credit hours.

**Clinicals**
Some courses in the professional program include a clinical requirement where students complete specific activities or designated hours in an appropriate setting. Clinicals are designed to expose students to diverse school demographics, locations, and programs.

## Honors Program
For details about the Honors Program in Education, see the beginning of the Cato College of Education section.

## Internship

Teacher education candidates participate in the yearlong internship during their final year of the program. During the first semester, students spend a minimum of one day per week in an assigned classroom while completing coursework on campus. During the second semester of the internship, students complete full-time student teaching in the same classroom. Applications for this yearlong internship are due two semesters prior to student teaching; part two of the application is due one semester prior to student teaching.

# Bachelor of Arts in Special Education General Curriculum, and Elementary Education, Dual Program

In addition to the traditional Special Education General Curriculum or Adapted Curriculum K-12 Program options, the Department of Special Education and Child Development in collaboration with the Department of Reading and Elementary Education also offers a B.A. in Special Education - General Curriculum and Elementary Education K-6, B.A., Dual Program. The Special Education - General Curriculum and Elementary Education K=6 Dual Program qualifies graduates for the Standard Professional 1 (SP1) Professional Educator's License in Special Education General Curriculum K-6 and Elementary Education K-6. Graduates from the Dual Program are licensed to teach children with mild disabilities in grades K-6. Additionally, the Dual Program qualifies graduates for entry level positions in the elementary general education classroom in grades K-6.

Graduates of the Special Education - General Curriculum and Elementary Education K-6 Dual Program are prepared to: provide individually planned, systematically implemented, and carefully evaluated instruction for students with disabilities; provide educational services to students with disabilities in general classrooms, resource classrooms, and other educational settings; and help students with disabilities achieve the greatest possible personal self-sufficiency and success in present and future environments. Graduates of the program are prepared to meet the North Carolina Professional Teaching Standards and the ten Interstate New Teachers Assessment and Support Consortium (INTASC) Standards for new teachers in Content Pedagogy, Student Development, Diverse Learners, Multiple Instructional Strategies, Motivation and Management, Communication and Technology, Planning, Assessment, Reflective Practice, and School and Community Involvement. Graduates have specific coursework and clinical experiences in a variety of settings in order to learn and apply evidence-based knowledge and practices in the fields of special education and elementary education.

## Admission Requirements (Pre-Education)

The Special Education - General Curriculum and Elementary Education K-6 Dual Program accepts 30 students per academic year. Once 30 applicants have been accepted into the Dual Program, the application process is closed. Students cannot apply to the Dual Program once they have already taken courses in another education program. Applications are reviewed first by the TEAL Office to determine that minimal acceptance requirements have been met. A second review of applications occurs by the Director of the Dual Program.

### Freshmen and Transfers

- See University Admission Requirements
- *Minimum Overall GPA:* 2.7
- *Pre-Major/Prerequisite Courses:* A minimum of 30 credit hours in approved college-level courses, and a grade of C or above in the following:
  - EDUC 1100 or EDUC 1511
  - SPED 2100
- A passing score on the Praxis Core exam or acceptable alternatives (SAT or ACT scores)
- Completion and clearance on the Criminal Background Check
- Signed Statement of Commitment to Professional Dispositions
- Professional goals statement detailing interest in obtaining dual licensure

### Currently Enrolled Students

- *Declaration of Major:* The Special Education General Curriculum and Elementary K-6 dual major is intended to be started in the second semester of Sophomore year. Students should plan to declare the major no later than the first semester of the Sophomore year. Students must complete an "Application for Admission to a Teacher Education Program" in the Office of Teacher Education Advising and Licensure (TEAL) in the Cato College of Education. Students must apply for admission to a specific teacher education program and complete the admissions process in order to enroll in any professional education courses at the 3000 level or above.

## Degree Requirements

The Major in Special Education - General Curriculum and Elementary Education K-6 Dual Program leading to the B.A. degree requires a minimum of 120 credit hours.

### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information. Students in this major should plan on taking the following courses that meet general education requirements and also satisfy courses in the major:

BIOL 1110 - Principles of Biology I (3)
BIOL 1110L - Principles of Biology I Laboratory (1)
MATH 1340 - Mathematics for Elementary Teachers I (3)
MATH 1341 - Mathematics for Elementary Teachers II (3)
*(Recommended)*

### Foundation Courses (6-7 credit hours)

EDUC 2100 - Local Social Science: Public Education and Schooling in the U.S. (3)*
or EDUC 1100 - Foundations of Education and Diversity in Schools - Prospect Curriculum (4)*
SPED 2100 - Exceptionality in Schools and Society (3)*

**SPED 2100 and either EDUC 1100 or EDUC 1511 should be taken prior to a student's Sophomore year. Both courses must be completed with a grade of C or above to qualify for admission to the Teacher Education Program in the Special Education - General Curriculum and Elementary Education K-6 Dual Program.*

**Major Courses (81 credit hours)**
Admission to Teacher Education and advisor approval are required in order to register for any of the following courses:

ELDT 4100 - Foundations for Effective Technology Integration (3)
ELED 3111 - Instructional Design and Assessment in Elementary Education (3)
ELED 3120 - The Elementary School Child (3)
ELED 3221 - Teaching Science to Elementary School Learners (3)
ELED 3223 - Teaching Social Studies to Elementary Learners (3)
ELED 3292 - Theories and Practice in Urban Education (3)
ELED 4121 - Assessment and Instructional Differentiation in the Elementary School Classroom (3)
ELED 4122 - Creating an Effective Environment in the Elementary School Classroom (3)
ELED 4220 - Instructional Planning for Elementary Learners (3)
MAED 3222 - Teaching Mathematics to Elementary School Learners, Grades K-2 (3)
MAED 3224 - Teaching Mathematics to Elementary School Learners, Grades 3-6 (3)
READ 3224 - Teaching Foundational Literacy Skills (3)
READ 3226 - Applied Literacy and Practices (3)
SPED 3175 - Instructional Planning in Special Education (3)
SPED 4270 - Classroom Management (3)
SPED 4272 - Teaching Mathematics to K-12 Learners (3)
SPED 4275 - Teaching Reading to Elementary Learners (3)
SPED 4277 - Teaching Written Expression to K-12 Learners (3)
SPEL 3100 - Introduction to Special Education and Dual Program (3)**
SPEL 3173 - Assessment in Special Education and Elementary Education (3)
SPEL 4171 - Special Education: - Consultation and Collaboration in Elementary Schools (3)
SPEL 4477 - Student Teaching/Seminar: Special Education General Curriculum and Elementary Education K-6 (Dual Program) (15)
TESL 4204 - Learning, Schools, and Community (3)

***This course is an important and required introduction to the Dual Program, and it must be completed during the Fall semester of the student's Sophomore year.*

**Related Licensure Requirement Course (3 credit hours)**
*Select one of the following:*
ARTE 2121 - Integrating Art Across the Curriculum (3)
MUSC 1102 - Fundamentals of Musicianship (3)
MUSC 2191 - Incorporating Music Into the Elementary Classroom (3)
THEA 1265 - Introduction to Stage Performance (3)
THEA 1360 - Applied Theatre in Communities and Schools (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Academic Advising
During the duration of the program, students are advised by the Dual Major Undergraduate Program Director. Students accepted into the Special Education - General Curriculum and Elementary Education K-6 Dual Program are required to attend advising sessions each semester during the program.

## Progression Requirements
For a degree to be conferred, students must successfully complete all program requirements which include:

- Minimum GPA of 2.7 to declare major
- Minimum GPA of 2.5 must be maintained to remain enrolled
- Students should plan to take EDUC 1100 / EDUC 1511 and SPED 2100 during Freshman Year and be admitted to upper division before Sophomore Year.
- Grades in professional education must be C or above
- Minimum overall GPA in professional education courses must be 2.75
- Students may repeat a professional course once.
- Students may be dropped from a course if they register out of sequence.
- Approval of the Chair (or his or her designee) of the department that offers the program

**Requirements for Licensure and Graduation**

- A grade of P in student teaching with recommendation from Cooperating Teacher, University Supervisor, and Principal is required for licensure and graduation.
- Passing score on edTPA is required for licensure and graduation.

## Special Policies or Requirements
The successful completion of this degree program includes meeting the North Carolina Department of Public Instruction's licensure requirements for K-6 certification. Consequently, additional requirements must be completed during the student's program and are listed below. Since state licensure requirements often change, additional work may be required to complete the program with a teaching license.

**Planning Sheet**
All education students are tracked through their program with a Program Planning Sheet. The original planning sheet is uploaded to the advising system and lists all courses taken, transfer hours, General Education and minor requirements met, and courses remaining in the program. Note that the University requires that the minimum number of credits in a degree program is 120 credit hours.

**Clinicals**
Some courses in the professional program include a clinical requirement where students complete specific activities or designated hours in an appropriate setting. Clinicals are designed to expose students to diverse school demographics, locations, and programs.

## Honors Program
For details about the Honors Program in Education, see the beginning of the Cato College of Education section.

## Internship
Teacher education candidates participate in the yearlong internship

during their final year of the program. During the first semester, students spend a minimum of one day per week in an assigned classroom while completing coursework on campus. During the second semester of the internship, students complete full-time student teaching in the same classroom. Applications for this yearlong internship are due two semesters before student teaching; part two of the application is due one semester prior to student teaching.

# Minor in Collaborative Educators in Inclusive Schools

The Collaborative Educators in Inclusive Schools minor provides opportunities for any undergraduate candidates admitted to a teacher licensure program to enhance their collaboration and co-teaching knowledge, practice and experiences so that they are more adequately prepared for typical responsibilities as a Pre-K to 12 educator. This minor is designed to prepare candidates for their careers by addressing competencies related to interdisciplinary collaboration and programming with a specific focus on supporting the needs of multilingual learners and students with disabilities. These competencies support candidates' ability to meet the diverse needs of students in classrooms. This minor is open to education majors only who have been admitted to a teacher licensure program at UNC Charlotte, but does not lead to a teaching license.

## Admission Requirements

Admission to the teacher education program.

## Required Courses

ECEI 2114 - Understanding Families: Theoretical Perspectives, Foundations, and Practice (3)
EDUC 4100 - Considerations for an Inclusive Society (3)
EDUC 4290 - Inclusion of Students with Varied Learning Needs (3)
EDUC 4292 - Collaborative Inclusive Co-Planning and Co-Teaching (3)
SPED 4101 - Data-based Decision-making Within a Multi-tiered System of Support Framework (3)
TESL 4204 - Learning, Schools, and Community (3)

## Progression Requirements

Students who declare the *Collaborative Educators in Inclusive Schools Minor* are required to complete all six courses, earn a minimum grade of C or above, and maintain a GPA of 2.5 or higher.

## Total = 18 Credit Hours

# Minor in Early Childhood Education and Intervention

The Minor in Early Childhood Education and Intervention provides opportunities for students to develop an overview of early learning and development, an understanding of early childhood issues, and insights into the role of families, as well as the role of child care in out-of-home experiences.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Students who declare the minor are required to complete six courses (18 credit hours total).
- Some of the required courses have prerequisites, so students should declare the Minor in Early Childhood Education and Intervention as early as possible to plan their schedule. Students declaring the minor as Sophomores and Juniors can usually complete the degree on schedule. Students interested in the minor should begin taking classes *as early as possible* after declaration.
- Advising and admission to the minor are administered through the Office of Teacher Education Advising and Licensure (TEAL).

## Minor Requirements

ECEI 2111 - Theoretical Foundations of Early Childhood Care and Education (3)*
ECEI 2113 - Introduction to Early Childhood Development and Developmentally Appropriate Practice (DAP) (3)*
ECEI 2114 - Understanding Families: Theoretical Perspectives, Foundations, and Practice (3)
ECEI 2412 - Clinical I: Applied Early Learning in Childhood Settings (3)
ECEI 3210 - Enhancing the Social-Emotional Development of Young Children in Inclusive Settings (3) -
ECEI 4111 - Issues in Early Intervention for Young Children with Disabilities (3)

**Notes: ECEI 2111 and ECEI 2113 and ECEI 2114 must be the first courses completed.*

## Minor Total = 18 Credit Hours

## Progression Requirements

Students who declare the Minor in Early Childhood Education and Intervention are required to complete the above six courses. A minimum grade of C or above in the courses is required. ECEI 2111 and ECEI 2113 and ECEI 2114 must be the first courses completed.

## Special Policies or Requirements

At least 50% of courses applied to the minor must be taken at UNC Charlotte.

- EDU 146 (CHFD 0001) can be substituted for ECEI 3210
- EDU 145 (CHFD 0001) and EDU 151 (EDUC 0001) can be substituted for any of the 3000/4000 level courses.

**Clinicals**

The professional program includes a clinical requirement where students complete specific activities or designated hours in an appropriate setting. The course ECEI 2412 is a clinical course designed to expose

students to diverse school demographics, locations, and programs.

## Minor in Inclusion, Disability, and Exceptionalities in American Society

The Inclusion, Disability, and Exceptionality in American Society Minor provides opportunities for undergraduates in all colleges except for the Cato College of Education to enhance their knowledge of exceptionalities including disabilities and giftedness and to recognize the impact exceptionalities have on the lives of people who experience them and on the people with whom they live and interact. This minor will prepare students to build environments that will increase accessibility and participation in all life experiences for children of all ages and adults with disabilities and other exceptionalities. The minor is designed to enhance a student's career by preparing them to understand the nature of exceptionalities, the meaning of disability and giftedness in our society, working with families of individuals with exceptionalities, and methods of promoting a more inclusive society. Program electives include courses in extensive support needs and gifted education. This minor is open to non-education majors who plan to work in careers involving individuals with exceptionalities. This minor does not lead to a teaching license.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

Admission to UNC Charlotte. See University Admission Requirements.

### Minor Requirements

**Required Courses**

*The following four courses are required as part of the Inclusion, Disability, and Exceptionalities in American Society minor:*

ECEI 2114 - Understanding Families: Theoretical Perspectives, Foundations, and Practice (3)
EDUC 4100 - Considerations for an Inclusive Society (3)
EDUC 4293 - Universal Design: Considerations for Technology and Society (3)
SPED 2100 - Exceptionality in Schools and Society (3)

**Electives**

*Complete two of the following courses as electives:*

PSYC 2113 - Introduction to Brain, Behavior, and Mental Processes (3)
PSYC 2117 - Introduction to Lifespan Development (3)
PSYC 2370 - Child Development (3)
PSYC 2371 - Adolescent Development (3)
SOCY 2171 - Social Problems (3)
SOCY 4111 - Social Inequality (3)
SOCY 4135 - Sociology of Education (3)
SOWK 1101 - The Field of Social Work (3)
SPED 4115 - Autism Spectrum Disorder Across the Lifespan (3)
SPED 4281 - Communication Instruction for Students with Extensive Support Needs (3)
SPED 4318 - Collaboration and Transition-Focused Education (3)
SPED 5211 - Nature and Needs of Gifted Students (3)
SPED 6161 - Social and Emotional Needs of Gifted Students (3)

### Minor Total = 18 Credit Hours

### Progression Requirements

Students who declare the Inclusion, Disability, and Exceptionalities in American Society Minor are required to complete the four core courses and two elective courses, earning a minimum grade of C or above in the program courses.

## Early Entry: Graduate Certificate in Academically or Intellectually Gifted

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.0 overall undergraduate GPA
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents (i.e., transcripts and a brief personal statement)
- Recommendation by the Graduate Program Director and approved by the Graduate School

### Progression Requirements

- Completion of Early Entry Program Form, with signatures indicating approval by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework
- Maintain a minimum 3.4 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

### Special Policies or Requirements

Up to 6 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 6 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for these degree programs, see the individual program listings in the *Graduate Catalog*.

# Early Entry: Graduate Certificate in Special Education and Child Development, Child and Family Concentration

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.
All program-level Admissions and Progression Requirements are in addition to the University of North Carolina at Charlotte Admission Requirements.

**Admission Requirements**

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Acceptable scores on the appropriate graduate standardized test (e.g., GRE)
- Submit application online at: gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

**Progression Requirements**

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 12 hours of graduate credit before they have completed their baccalaureate degree

**Special Policies or Requirements**

Up to 12 credits may be double-counted toward both the undergraduate and graduate degrees.

Four courses in the newly revised Early Childhood Education and Intervention (ECEI) undergraduate B-K Licensure program have been identified as early-entry courses due to their alignment with MEd coursework. Students will be required to complete additional, differentiated coursework during their undergraduate program for credits to be double counted.

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# The William States Lee *College of* Engineering

# The William States Lee College of Engineering

**engr.charlotte.edu**

The William States Lee College of Engineering transforms lives, communities, and industries through student-centered applied learning, powerful partnerships, and research that solves complex problems and focuses on impacting society.

The Lee College of Engineering offers Baccalaureate degree programs in Engineering, Engineering Technology, and Construction. The College offers master's degree programs in Engineering, Construction and Facilities Engineering, Applied Energy and Electromechanical Engineering, Fire Protection and Safety Management, and Engineering Management. Ph.D. programs are available in Civil Engineering, Electrical Engineering, and Mechanical Engineering, as well as an interdisciplinary Ph.D. in Infrastructure and Environmental Systems. For details on the graduate programs, refer to the *UNC Charlotte Graduate Catalog*.

The College of Engineering consists of the following departments:

- **Albert School of Construction**
- **Department of Civil and Environmental Engineering**
- **Department of Electrical and Computer Engineering**
- **Department of Engineering Technology**
- **Department of Industrial and Systems Engineering**
- **Department of Mechanical Engineering and Engineering Science**

## Degree Programs

### Engineering Programs

The Baccalaureate programs in engineering offer professional engineering education that can be used as the foundation for different career objectives: workforce ready professional engineers in industry, business, or consulting; graduate study preparing for careers in research, development, or teaching; and a more general and liberal engineering education with the objective of keeping a variety of career paths open.

The course of study includes the humanities, social sciences, physical sciences, mathematics, and engineering sciences and design. The student expecting to accept employment in industry may emphasize the engineering design and engineering science aspects of a program, while the student preparing for graduate study might emphasize the mathematics and science aspects. Some graduates take on executive and management responsibilities in industries and firms that are based upon engineering products and services. These students may choose to construct an elective option in their program to include economics and business-related courses that strengthen their communications and other non-technical skills.

Engineering students are strongly encouraged to pursue the requirements for registration as a Professional Engineer (PE). The first step in the registration process is the successful completion of the Fundamentals of Engineering (FE) Examination. Students are encouraged to take this examination during their Senior year. Additional requirements for professional licensure subsequent to graduation include the accumulation of at least four-years of progressive engineering experience and successful completion of the Professional Engineer Examination (PE Exam). Students who complete the Cooperative Education Program or who complete their master's degree only need three years of progressive engineering experience to be eligible to take the PE Exam in North Carolina.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

Once a student is admitted into the Lee College of Engineering, they are prohibited from transferring in coursework (Foundation, Core, and Major Courses) from other institutions without prior approval. This policy applies to courses taken from any other institution. Approvals are limited to 1000- and 2000-level courses taken outside of Spring and Fall terms. Policies for approving the transfer of 3000-level and above courses vary by degree program and should be discussed with an academic advisor prior to filing a petition for transient study. Approval may be denied due to University or College residency requirements. Equivalency for upper-division engineering courses may be denied.

#### Majors

- Civil Engineering, B.S.C.E.
- Civil Engineering, Energy Infrastructure Concentration, B.S.C.E.
- Civil Engineering, Land Development Engineering Concentration, B.S.C.E.
- Computer Engineering, B.S.CP.E.

- Computer Engineering, Machine Learning Concentration, B.S.CP.E.
- Electrical Engineering, B.S.E.E.
- Electrical Engineering, Machine Learning Concentration, B.S.E.E.
- Electrical Engineering, Power and Energy Systems Concentration, B.S.E.E.
- Environmental Engineering, B.S.
- Mechanical Engineering, B.S.M.E.
- Mechanical Engineering, Aerospace Engineering Concentration, B.S.M.E.
- Mechanical Engineering, Biomedical Engineering Concentration, B.S.M.E.
- Mechanical Engineering, Energy Engineering Concentration, B.S.M.E.
- Mechanical Engineering, Motorsports Engineering Concentration, B.S.M.E.
- Mechanical Engineering, Precision Engineering and Metrology Concentration, B.S.M.E.
- Physics, B.A. and Electrical Engineering, B.S. Dual Degree
- Physics, B.A. and Mechanical Engineering, B.S. Dual Degree
- Systems Engineering, B.S.S.E.
- Systems Engineering, Energy Systems Concentration, B.S.S.E.

### Minors
- Minor in Computer Engineering
- Minor in Electrical Engineering
- Minor in Mechanical Engineering

### Honors Programs
- Engineering, Honors Program

### Graduate Early Entry Programs
- Applied Energy and Electromechanical Engineering, M.S., Early Entry
- Civil Engineering, M.S., Early Entry
- Computer Engineering, M.S., Early Entry
- Construction and Facilities Engineering, M.S., Early Entry
- Electrical Engineering, M.S. or Ph.D., Early Entry
- Engineering Management, M.S., Early Entry
- Mechanical Engineering, M.S., Early Entry
- Optical Science and Engineering, M.S. or Ph.D., Early Entry

## Engineering Technology Programs
Engineering technology is the profession in which knowledge of mathematics and natural sciences gained through higher education, experience, and practice is devoted primarily to the implementation and extension of existing technology for the benefit of humanity. Engineering technology education focuses on the applied aspects of science and engineering aimed at preparing graduates for practice in the technological spectrum closest to product improvement, manufacturing, and engineering operational functions.

Engineering technology programs are characterized by a focus on application and practice with an approximately equal mix of theory, practice, and laboratory experience.

Graduates of the engineering technology programs are recruited by most major technological companies in the U.S. They are employed across the technological spectrum but are best suited to areas that deal with application, implementation, and production. Technical sales and customer service fields also account for many placements.

Engineering technology students are encouraged to pursue the requirements for registration as a Professional Engineer. The first step in the registration process is the successful completion of the Fundamentals of Engineering (FE) Examination. Students are encouraged to take this examination during their Senior year. Additional requirements for professional licensure following graduation include the accumulation of at least eight years of progressive experience and successful completion of the Professional Engineer Examination (PE Exam). Students who complete the Cooperative Education Program or who complete their master's degree only need seven years of progressive engineering experience to be eligible to take the PE Exam in North Carolina.

### Majors
- Electromechanical Engineering Technology, B.S.E.T.
- Electromechanical Engineering Technology, Applied Energy Concentration, B.S.E.T.
- Mechanical Engineering Technology, B.S.E.T.
- Mechanical Engineering Technology, Applied Energy Concentration, B.S.E.T.

- Mechanical Engineering Technology, Electromechanical Systems Concentration, B.S.E.T.

**Graduate Early Entry Programs**
- Applied Energy and Electromechanical Engineering, M.S., Early Entry

## Construction Programs

The baccalaureate programs in construction provide professional education focused on the planning, delivery, and operation of capital projects across the built environment. These programs prepare graduates for leadership roles in the construction industry, infrastructure development, and related sectors by integrating technical, managerial, and engineering perspectives across the full project life cycle.

Construction education at UNC Charlotte encompasses complementary degree pathways that collectively support project success from concept through operation and maintenance. The Civil Engineering Technology (Civil ET) program emphasizes applied engineering technology and field-based technical leadership; the Construction Management (CM) program focuses on project operations, business processes, and organizational leadership; and the Construction Engineering (ConE) program, offered in collaboration with the Department of Civil and Environmental Engineering, prepares students for engineering-oriented leadership in construction and infrastructure delivery. Together, these programs address the technical, managerial, and engineering dimensions required for successful capital project execution.

The course of study integrates engineering fundamentals, construction methods, project planning and controls, procurement, and operation. Students gain exposure to the complete capital project life cycle, including engineering and design coordination, procurement and contracting, construction execution, commissioning, and operations and maintenance. Emphasis is placed on interdisciplinary knowledge, collaboration across professional roles, and the application of modern tools and technologies used in industry.

All construction programs emphasize experiential learning through internship or cooperative education opportunities (a minimum of 400 work hours), ensuring that students engage in meaningful experiential learning and graduate with practical, real-world experience. This requirement reinforces industry readiness and prepares graduates to lead teams, manage complex projects, and adapt to evolving workforce needs in construction and infrastructure sectors.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements. Program-specific policies related to course transfer, progression, and residency requirements are administered through Albert School of Construction.

**Majors**
- Civil Engineering Technology, B.S.E.T.
- Civil Engineering Technology, Applied Energy and Sustainable Systems Concentration, B.S.E.T.
- Construction Engineering, B.S.
- Construction Management, B.S.C.M.
- Construction Management, Applied Energy and Sustainable Systems Concentration, B.S.C.M.
- Fire and Safety Engineering Technology, Fire Safety Concentration, B.S.E.T.
- Fire and Safety Engineering Technology, Occupational Safety Concentration, B.S.E.T.

**Minors**
- Construction Management, Minor
- Fire Safety, Minor
- Fire Science, Minor
- Occupational Safety, Minor

**Graduate Early Entry Programs**
- Construction and Facilities Engineering, M.S., Early Entry
- Fire Protection and Safety Management, M.S., Early Entry

# Honors Program

The Engineering Honors Program provides students with access to opportunities designed to stimulate their thinking and broaden their exposure to topics related to the professional practice of engineering and engineering design. The Engineering Honors Program is committed to the highest principles of professional practice that guide our decision-making. The Engineering Honors Program is a community of learners actively engaged in academic scholarship while demonstrating the highest regard for others by modeling the ethical standards that protect the public safety; promote service to community above the self; and support, encourage, educate, and value others. These are the core values of the members of the program.

### Admission Requirements
Students interested in being admitted to the Engineering Honors Program must be enrolled in the Engineering Senior Design capstone experience in their home department to be eligible to participate in the collegewide program. Admission to the program is based on the student's demonstrated honors potential and is determined by examining the cumulative GPA (minimum 3.50 for currently enrolled or transfer students), academic and other distinctions, activities, and other related factors. All admitted students must maintain a minimum 3.50 cumulative GPA at UNC Charlotte to remain a member of the program. Students failing to meet the minimum cumulative GPA requirement will be ineligible to enroll in the Honors Program.

### Course Requirements
Students in the Engineering Honors Program must complete Engineering Honors Seminar I and II in conjunction with the respective Senior Design capstone course required for their program of study.

ENGR 3790 - Engineering Honors Seminar I (1)
ENGR 3791 - Engineering Honors Seminar II (1)

### Progression Requirements
To graduate with "Honors in Engineering," a student must complete the required seminar course sequence and complete the Application to Candidacy process for graduating with honors, as directed by the Honors College, beginning one semester prior to graduation. A cumulative GPA of at least 3.50 overall and a grade of A must be earned in the Honors Program capstone project presentation.

# Additional Engineering Programs and Opportunities

## Maximizing Academic and Professional Success Program (MAPS)
The goals of the MAPS Program are to improve the retention, academic performance, and professional development of students who are committed to earning a degree from the William States Lee College of Engineering. The MAPS Program serves as a process for transition, as new College of Engineering students establish personal connections; learn, understand, and apply academic success and professional development strategies; and grow in self-confidence and personal independence. The MAPS Program also supports the University Center for Academic Excellence (UCAE) through funding of Peer Assisted Learning (PAL) leaders to provide additional student services for foundational first-year College of Engineering courses.

Assessment results consistently indicate that students who attend seven or more transition coaching sessions earn an average first-semester GPA of 3.20, as compared to non-participants with an average first-semester GPA of 2.70. Additionally, students who attend five or more PAL sessions during a semester for a given course typically earn a final course grade that is one-half, to one full letter grade higher compared to other students. For more details, please visit osds.charlotte.edu/maps-program/mission.

## Freshman Learning Community (FLC)
The FLC is home to approximately 200 College of Engineering First-Year students who live, study, and interact in a single residence hall. Students benefit from having similar interests and course schedules. Students have free access to the Creativity Lab, a maker space, in the building. In addition, MAPS peer coaching and tutoring for a variety of First-Year courses are offered. Other events, such as “transition to university life” for new students, engineering site visits, and social activities are also available to participants. For details, visit osds.charlotte.edu/freshman-learning-community.

## Student Leadership Academy
The Leadership Academy is an optional two-year extracurricular program designed to develop the leadership capabilities of College of Engineering students through a series of weekend retreats with other students, faculty, and industry partners. Top industry executives help facilitate specific activities providing current, real-world perspectives on team-building, effective communication, ethics, integrity, emotional intelligence, positive influence, and goal-setting, all characteristics of a successful leader and communicator in business and the community. Selected students who fulfill all requirements of the program receive a transcript notation and a Crucial Conversations Certificate of Completion. For details, visit osds.charlotte.edu/leadership-academy.

## Engage ME!
The Engage ME! Multicultural Engineers Program is meticulously structured to enhance retention rates and foster a profound sense of belonging among first-generation, first-time-in-college, underrepresented, and minority students within the William States Lee College of Engineering. Engage ME! aims to cultivate a vibrant community among engineering students while providing access to a myriad of resources both within and beyond the college.

This program embodies the principle that every member of our community possesses the full potential to excel in all degree programs offered by the College of Engineering. Through a variety of initiatives including social networking, peer activities, mentoring programs, and outreach events, Engage ME! nurtures academic, social and professional growth.

Furthermore, the program equips students with the tools to identify and seize opportunities for academic and professional success. To learn more about Engage ME! and its comprehensive offerings, please visit the Office of Student Development and Success at osds.charlotte.edu/engage-me/3.

## WE Engage!

WE Engage! supports the academic and professional development of women in engineering, engineering technology and construction management. The program promotes and fosters peer and professional networking among women engineers through interactions that increase the recruitment, retention, graduation, and employment of women studying in the Lee College of Engineering. For details, visit https://osds.charlotte.edu/osds-programs/we-engage/about-we-engage/.

## Experiential Learning and Service Learning Opportunities

Students are encouraged to participate in professional work experiences in support of their academic and career development through the cooperative education, internships and service learning programs offered to students in the College. The College works with the University Career Center to expand experiential learning offerings to enable more students to graduate with career related experience. For more information about experiential learning opportunities, see the University Career Center section of this Catalog and visit osds.charlotte.edu.

## Cooperative Education (Co-op) Program

Students may obtain practical work experience while pursuing their degree by participating in cooperative education whereby a student completes a certain number of work sessions of full-time work experience in industry. Students can begin their co-op work sessions in the spring, summer and/or fall The work experience is under the direction of the student's major department and is closely related to his or her field of study. Program benefits include transcript notation, possible technical elective credit (depending on the student's major), and credit towards the "professional engineering work experience" requirement for licensure to be a Professional Engineer in North Carolina.

To be eligible for the Co-op program, a student must have completed at least 30 credit hours at UNC Charlotte, including a number of specified courses with an overall minimum GPA of 2.50. A transfer student is expected to have completed at least 12 credit hours at UNC Charlotte.

The Co-op student works closely with their academic advisor to ensure a clear path to graduation. Students who participate in Co-op traditionally are more highly recruited at higher starting salaries than other students.

Students interested in learning more about the advantages and opportunities of participating in this program should contact the College's Director for Student Professional Development and Employer Relations or the University Career Center. For details, visit osds.charlotte.edu.

## Domestic Internships

A number of opportunities for internships (either for-credit or not) exist for students at local and regional employers. Internships for College of Engineering students are always paid positions. UNC Charlotte University Career Center defines an Internship as requiring a minimum of 80 work hours which need to be completed in no less than five weeks for one semester. Fall and Spring semester internships are typically part-time. Summer internships may be full- or part-time.

Internships posted by the University Career Center do not routinely offer academic credit. Students can earn credit, when other options are not available, by registering for UCOL 3410 (Career Development Internship). UCOL 3410 allows Junior- and Senior-level students to earn one to three hours of elective credit, depending on criteria set by the employer and the University Career Center in consultation with the student's major department. Approval for enrollment must be arranged before the student begins the work experience.

Students interested in learning more about the advantages and opportunities of participating in this program should contact the College's Director for Student Professional Development and Employer Relations or the University Career Center. For details, visit osds.charlotte.edu.

## International Experiences

The College provides opportunities for overseas study, research, and/or an industrial experience. In many cases, students who meet eligibility requirements receive special scholarships and/or grants to help defray the cost of these programs.

## Fundamentals of Engineering (FE) Exam

The first step in professional licensure is the FE exam. Students in ABET accredited programs may take the FE Exam at any time. The College encourages students to take and successfully pass this national examination during their Senior year. For details, visit pd.charlotte.edu/licensure.

## Continuing Engineering Studies

The College of Engineering sponsors various special educational programs for practicing engineers, technologists, technicians, and others, in addition to its regular academic degree programs and courses. These include conferences, short courses, seminars, and other continuing education programs designed to aid those practicing in technical professions and occupations to keep abreast of the latest developments in the rapidly expanding technology. For more information, visit the School of Professional Studies at professional.charlotte.edu.

# Albert School of Construction

engr.charlotte.edu/construction/

## Undergraduate Programs

- B.S. in Construction Engineering
- B.S. in Construction Management (BSCM)
  - Applied Energy and Sustainable Systems
- B.S.E.T. in Civil Engineering Technology
  - Applied Energy and Sustainable Systems
- B.S.E.T. in Fire and Safety Engineering Technology, Fire Safety Concentration
- B.S.E.T. in Fire and Safety Engineering Technology, Occupational Safety Concentration
- Minor in Construction Management
- Minor in Fire Science
- Minor in Occupational Safety
- Early Entry: M.S. in Construction and Facilities Engineering
- Early Entry: M.S. in Fire Protection and Safety Management

The Albert School of Construction provides comprehensive educational and applied learning opportunities focused on the planning, delivery, and operation of capital projects across the built environment. The School prepares students for leadership roles in construction, infrastructure, and related industries by integrating engineering fundamentals, construction methods, project management, and business principles.

Undergraduate programs within the School address complementary aspects of project success, including field-based technical leadership, engineering-oriented construction delivery, and project and operations management. The curriculum emphasizes interdisciplinary collaboration and covers the full capital project life cycle, from engineering and procurement through construction execution and operations and maintenance.

Construction education within the School strongly emphasizes experiential learning and industry engagement. Internship or cooperative education experience ensures that graduates enter the workforce with practical, real-world experience and are prepared to lead teams and manage complex projects.

The construction field encompasses a wide range of challenges, including planning and execution of residential, commercial, industrial, and infrastructure projects; integration of engineering design with construction operations; cost estimating, scheduling, and procurement; construction safety, quality control, and risk management; and the application of modern digital technologies in project delivery.

Graduates of the School of Construction are prepared to contribute immediately as industry-ready professionals and advance into leadership roles across the construction and infrastructure sectors.

## Degree Programs

The Albert School of Construction offers curricula leading to the Bachelor of Science in Construction Engineering (BS), Bachelor of Science in Construction Management (BSCM), and the Bachelor of Science in Civil Engineering Technology (BSET).

### Construction Engineering

Construction Engineering (ConE) graduates support the planning, coordination, and execution of construction and infrastructure projects by applying engineering principles in field and project environments. Construction engineers work at the interface of design and construction, collaborating with owners, engineers, construction managers, and contractors to address constructability, quality, cost, and schedule challenges. Graduates are prepared for positions such as project engineer, field engineer, construction engineer, assistant project manager, and engineering coordinator, and for advanced study and professional licensure pathways related to engineering and construction.

### Construction Management

Construction Management (CM) graduates plan, direct, and coordinate a wide variety of construction projects, including the building of all types of residential, commercial, and industrial structures, roads, bridges, wastewater treatment plants, and schools and hospitals. Construction managers may oversee an entire project or just part of a project. They often work with or for owners, engineers, architects, and others who are involved in the construction process. Construction managers evaluate and help determine appropriate construction delivery systems and the most cost-effective plan and schedule for completing the project.

### Civil Engineering Technology

Civil Engineering Technology (CIET) graduates find employment in a wide range of positions in construction, surveying, engineering and architectural firms; local, state and national government; environmental and public health agencies; state departments of transportation and highways; and private business and industry. Specific job titles of recent graduates include transportation technician, highway technician, engineer-in-training, materials supervisor, surveying crew chief, civil engineering detailer/designer, office engineer, construction estimator or planner, engineering assistant, project engineer and assistant project manager.

### Accreditation

The Bachelor of Science in Civil Engineering Technology degree program is accredited by the Engineering Technology Accreditation Commission of ABET, https://www.abet.org, under the commission's General Criteria and Program Criteria for Civil Engineering Technology.

The Bachelor of Science in Construction Management degree program is accredited by the Applied and Natural Science Accreditation Commission of ABET, https://www.abet.org, under the commission's General Criteria and Program Criteria for Construction Management.

The Bachelor of Science in Construction Engineering degree program is

a new interdisciplinary program designed with ABET EAC criteria in mind. The program will seek ABET accreditation once it becomes eligible after graduating its first cohort. www.abet.org.

## Program Educational Objectives

Our programs are committed to providing the environment and expertise to ensure that their graduates may make substantive contributions in their professional endeavors after graduation, both in the areas of technical proficiency and community involvement.

These program educational objectives are statements that describe the expected accomplishments of graduates during the first few years after graduation.

### Civil Engineering Technology

1. Apply general and discipline-specific concepts and methodologies to identify and provide operational and technical solutions through critical thinking and problem solving
2. Effectively communicate information and lead discussion in a professional manner to a broad range of stakeholders and in a variety of formats
3. Show growth within independent and team environments while modeling ethical, respectful, reliable, and professional behavior
4. Understand and adapt to the impact of technological, environmental, societal, and economic changes on the profession in local, national and global contexts
5. Demonstrate lifelong learning skills through certifications, professional development, and licensure

### Construction Management

1. Apply general and discipline-specific concepts and methodologies to identify and provide operational and technical solutions
2. Effectively communicate information and lead discussion in a professional manner to potentially diverse audiences and in a variety of formats
3. Show growth within independent and team environments while modeling ethical, respectful, reliable and professional behavior
4. Understand and adapt to the impact of the environmental, societal and economic complexities on the profession in local, national and global contexts
5. Demonstrate lifelong learning skills through certifications, professional development, and licensure

## Student Learning Outcomes

### *Civil Engineering Technology*

The Civil Engineering Technology program's student outcomes are also mapped to the ETAC of ABET Criterion 3 Outcomes:

#### ETAC of ABET Criterion 3 Outcomes

For baccalaureate degree programs, these student outcomes must include, but are not limited to, the following:

1. An ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve broadly-defined engineering problems appropriate to the discipline;
2. An ability to design systems, components, or processes meeting specified needs for broadly-defined engineering problems appropriate to the discipline;
3. An ability to apply written, oral, and graphical communication in broadly defined technical and non-technical environments; and an ability to identify and use appropriate technical literature;
4. An ability to conduct standard tests, measurements, and experiments and to analyze and interpret the results to improve processes; and
5. An ability to function effectively as a member as well as a leader on technical teams.

### *Construction Management*

The Construction Management program's student outcomes are mapped to the ANSAC of ABET Criterion 3 Outcomes listed below:

#### ANSAC of ABET Criterion 3 Outcomes

Baccalaureate degree program student outcomes must include, but are not limited to, the following:

1. An ability to identify, formulate, and solve broadly defined technical or scientific problems by applying knowledge of mathematics and science and/or technical topics to areas relevant to the discipline.
2. An ability to formulate or design a system, process, procedure or program to meet desired needs.
3. An ability to develop and conduct experiments or test hypotheses, analyze and interpret data and use scientific judgment to draw conclusions.
4. An ability to communicate effectively with a range of audiences.
5. An ability to understand ethical and professional responsibilities and the impact of technical and/or scientific solutions in global, economic, environmental, and societal contexts.
6. An ability to function effectively on teams that establish goals, plan tasks, meet deadlines, and analyze risk and uncertainty.

### *Construction Engineering*

The Construction Engineering program's student outcomes are mapped to the EAC of ABET Criterion 3 Outcomes listed below:

#### EAC of ABET Criterion 3 Outcomes

Baccalaureate degree program student outcomes must include, but are not limited to, the following:

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. An ability to communicate effectively with a range of audiences.
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative environment, establish goals, plan tasks, and meet objectives.
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

# Construction Engineering

## Bachelor of Science in Construction Engineering (B.S.)

The Construction Engineering degree requires 120 credit hours. To enhance student learning and real-world readiness, the curriculum includes a mandatory internship experience, (i.e., CNGR 3401 Construction Engineering Internship).

### Admission Requirements

#### First-Year Students

First-year admission is competitive, based upon an overall evaluation of the high school record, with particular emphasis on advanced courses in math and science. See University Admission Requirements for a detailed description of the criteria.

First-Year students may either select a major at the time of their application or may choose to be Engineering-undeclared. All First-Year College of Engineering students will take a common set of courses called the Common First Year. Towards the end of their first year, having completed all progression requirements, students will declare or confirm their Engineering Major for the second through fourth years. This selection may be the major they initially indicated or any other engineering major for which they meet the progression requirements.

#### Transfers

All transfer students will be evaluated for placement into a departmental program or the Common First Year program based on the evaluation of their transfer credits (consistent with the North Carolina articulation agreements).

1. Meet university admission requirements
2. Minimum GPA: 2.50
3. Pre-Major/Prerequisite Courses: Calculus I course (equivalent to MATH 1241), with a grade of C or above
4. Transferable Credit Hours: Minimum of 24

Transfers from an ABET-accredited engineering program who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

### Common First-Year Curriculum (CFY)

The College of Engineering uses a Common First-Year Curriculum (CFY) for all Engineering students in order to:

- Provide a strong academic base of foundational knowledge and skills
- Facilitate changing majors within the first year
- Support students with lower math placement and increase access to all majors
- Allow students to explore different majors before committing
- Enhance learning with innovative pedagogies and activities

#### Common First-Year Courses

All new first-year students are initially advised by a central office within the W.S. Lee College of Engineering. Students must complete the following classes that are common to all majors of the college (except Construction Management and Fire and Safety Engineering Technology) in order to progress and matriculate to their major department. *All First-Year Curriculum courses require a grade of C or better.*

ENGR 1300 Exploring Engineering & Technology with Success (2)
ENGR 1301 Foundations of Math and Science for Engineering (3)
ENGR 1302 Logic and Computational Problem Solving (3)
ENGR 1303 Engineering Visualization and Graphical Communication (3)
PHYS 2101 (3)
PHYS 2101L (1)
Two MATH courses: MATH 1103* or MATH 1241* or MATH 1242* (3 each)
*See Notes 1 and 2 below*

* All students should consult their advisor to select the math courses that match their planned major.

***Note 1***

Progression into Civil Engineering, Computer Engineering, Construction Engineering, Electrical Engineering, Environmental Engineering, Mechanical Engineering, and Systems Engineering Major Courses after completing the Common First Year Curriculum requires that students also complete MATH 1241, MATH 1242, PHYS 2101, and PHYS 2101L.

***Note 2***

Progression into Civil Engineering Technology, Electromechanical Engineering Technology, and Mechanical Engineering Technology Major Courses after completing the Common First Year Curriculum requires that students complete MATH 1241, PHYS 2101, and PHYS 2101L with a C or better (except for Electromechanical Engineering Technology).

***Note 3***

Students must earn at least a 2.0 GPA in the first semester to continue into the second semester.

### Degree Requirements

#### General Education Courses (31-32 credit hours)

For details on required General Education courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

Elective courses should be chosen to satisfy University General Education requirements, meet the objectives of a broad education consistent with the educational goals of the profession, and complement the student's overall educational plan. To avoid taking "extra" elective courses, students must select their elective courses carefully after consulting with their faculty advisor.

WRDS 1103 - Writing and Inquiry in Academic Contexts I and II (3)
CTCM 2530 - Interdisciplinary Critical Thinking and Communication (3)

#### First-Year Courses (21 credit hours)

See Common First-Year Curriculum (CFY) for details.

#### Required Foundation Courses (16 credit hours)

CHEM 1251 - General Chemistry I (3)

CHEM 1251L - General Chemistry I Laboratory (1)
MATH 2171 - Differential Equations (3)
MATH 2241 - Calculus III (3)
STAT 3128 - Probability and Statistics for Engineers (3)
PHYS 2102 - Physics for Science and Engineering II (3)
or CHEM 1252 - General Chemistry II (3)

**Major Courses (58 credit hours)**
ACCT 2121 - Principles of Accounting I (3)
CEGR 2102 - Engineering Economic Analysis (3)
CEGR 3122 - Structural Analysis (3)
CEGR 3143 - Hydraulics and Hydrology (3)
CEGR 3258 - Geotechnical Laboratory (2)
CEGR 3278 - Geotechnical Engineering (3)
CMET 1680 - Professional Development I: Construction Safety (1)
CMET 2105 - Plan Reading (2)
CMET 2105L - Plan Reading Lab (1)
CMET 2221 - Construction Means and Methods (3)
CMET 3123 - Cost Estimating (3)
CMET 3126 - Project Planning and Scheduling (3)
CMET 3150 - Construction Law and Contracts (3)
CMET 3224 - Construction Project Administration (3)
CNGR 2111 - Introduction to Construction Engineering (2)
CNGR 3401 - Construction Engineering Internship (1)
CNGR 4272 - Capstone (3)
ENGR 3295 - Multidisciplinary Professional Development (1)
ETCE 1211 - Construction Surveying I (3)
ETCE 1211L - Construction Surveying I Laboratory (1)
ETCE 1222 - Construction Materials (3)
ETCE 2163L - Construction Materials and Structures Lab (1)
MEGR 2141 - Engineering Mechanics I (3)
MEGR 2144 - Introduction to Solid Mechanics (3)

**ETCE/CEGR Electives (6 credit hours)**
*Select two technical elective courses from the list below:*
CEGR 3161 - Transportation Engineering I (3)
CEGR 3221 - Structural Steel Design I (3)
CEGR 3225 - Reinforced Concrete Design I (3)
CMET 3124 - Cost Estimating II (3)
CMET 4126 - Project Scheduling and Control (3)
CMET 4290 - Temporary Structures in Construction (3)
ETCE 4165 - Structural Steel Design (3)
ETCE 4251 - Highway Design and Construction (3)
ETCE 4266 - Reinforced Concrete Design (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements
After completing the Common First Year Curriculum (CFY) courses, students will decide on their engineering major for their second through fourth years, which may be the major they initially indicated or any other engineering major. Students must meet the following requirements in order to register for major courses:

**Engineering Majors**
Engineering majors must complete all of the requirements below before enrolling in W.S. Lee College of Engineering sophomore-year engineering courses.
- Pass all courses within two attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1242, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.5 cumulative GPA upon completion of the Common First Year Curriculum courses (2.80 for Mechanical Engineering majors)

**Engineering Technology and Construction Management Majors**
**Civil Engineering Technology**
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Electromechanical Engineering Technology**
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241 with grade of C or above and PHYS 2101 and PHYS 2101L
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Mechanical Engineering Technology**
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.2 cumulative GPA upon completion of the Common First Year Courses

**Construction Management**
- Complete CMET 1400, ETCE 1222, ETCE 1211L, and MATH 1103
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Fire & Safety)**
- Complete ETFS 1152, ETFS 1201, ETFS 1220, ETFS 1244, and MATH 1100
- Pass all courses within three attempts, including withdrawing from a course with a grade of W

- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Occupational Safety)**
- Complete BIOL 1110, ETFS 1201, ETFS 1220, ETGR 2230, MATH 1103, PSYC 1101 and STAT 1220
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

# Construction Management

## Bachelor of Science in Construction Management (B.S.C.M.)

The Bachelor of Science in Construction Management (BSCM) degree program is designed to provide the construction education necessary for entry into the construction industry (residential, commercial, industrial sectors, and heavy horizontal construction) and related careers, including, but not limited to, real estate and land development, infrastructure development, code enforcement, and insurance, among others.

The Construction Management program has been crafted to provide the student with extensive experience and practicum in the fundamentals of Construction Management (Plan Reading, Means and Methods, Cost Estimating, Project Planning and Scheduling and Construction Administration and Risk).

The program is further enhanced by business / management core courses in statistics, computer applications, economics, accounting, organization and supply chain management, and construction law which allows the student to pursue a minor in Business (Operations and Supply Chain Management).

### Admission Requirements

Students for this degree may enter degree programs in the Department of Engineering Technology and Construction Management as First-Year students or as transfer students.

**First-Year Students**

Applicants entering as First-Year students must meet the general University admission requirements. See University Admission Requirements.

**Transfers**

See University Admission Requirements.

Transfer admission into the department occurs in one of two situations:

1. Transfer applicants who do not have the Associate in Applied Science (AAS) degree or its equivalent must meet general University admission requirements.
2. Transfer applicants with an Associate of Applied Science (AAS) degree must:
   - Hold an Associate of Applied Science (AAS) degree in a field appropriate to the option they plan to enter. Acceptable AAS degrees may include Architectural, Automation, Building Construction, Civil, Construction, Design and Drafting, Surveying or similar title with curriculum acceptable to the department. A minimum GPA of 2.50 (out of 4.00) in the AAS degree is required.
   - Have completed satisfactorily the prerequisite background courses for the option they plan to enter. Missing background courses may be taken at UNC Charlotte.

**Currently Enrolled Students**

Current UNC Charlotte students who wish to change or declare their major to Construction Management must first satisfy the following requirements in order to be considered eligible for admission:

- Complete MATH 1103 or higher with a grade of C or better.
- Complete PHYS 1101 and PHYS 1101L or higher Physics course with a grade of C or better.
- Achieve a GPA between 2.2 - 4.0.
- Pass all currently attempted required courses within three attempts including withdrawing from a course with a grade of W.
- Students currently enrolled in a required course for a second time must wait until grades are posted before declaring an ETCM major. A student will not be admitted to the major unless the course is passed within three attempts.
- Complete at least one the following courses for their desired major:
  - ETCE 1222, or CMET 1400 or CMET 1680 with a grade of C or better

Upon satisfying all of the above requirements, students may request admission to an ETCM program by submitting the Change of Major form. Completion of the minimum requirements does not guarantee acceptance into a program.

### Course Requirements

Course requirements correspond to the mode of admission for each student as outlined hereafter.

- **Entering First-Year Students:** Students admitted as First-Year students complete the appropriate four-year curriculum for the program into which they were admitted.
- **Transfer students not holding an appropriate AAS degree:** Transfer students not holding an appropriate AAS degree must complete the remaining coursework outlined for the respective four-year curriculum into which they were admitted after evaluation and application of any transfer credit.
- **Transfer students holding an appropriate AAS degree:** Transfer students with an appropriate Associate of Applied Science (AAS) degree as defined previously under Admission Requirements may begin the program in the Junior year with up to 64 transfer credit hours awarded. Prerequisites for students holding an AAS degree

from a community or technical college are listed below.

## Course Prerequisites

Students must have satisfactorily completed the following subjects in their two-year Associate degree program:

- Accounting (6 credit hours)
- Business Computing (3 credit hours)
- Building Information Modeling (3 credit hours)
- Calculus (3 credit hours)
- Construction Materials (3 credit hours)
- Construction Methods (3 credit hours)
- Construction Surveying (4 credit hours)
- English Composition and Technical Writing (6 credit hours)
- Macro Economics (3 credit hours)
- Physics with Lab (3 credit hours)
- Plan Reading (3 credit hours)
- Precalculus (3 credit hours)
- Statics (3 credit hours)
- Statistics (3 credit hours)

## Remediation of Academic Entrance Requirements for AAS Transfer Students

In addition to University and College of Engineering requirements, an AAS transfer student who is admitted to any BSET program without meeting ALL published admission requirements is expected to remove all admission deficiencies within one year. Violators are subject to discontinuance and enrollment in Senior-level coursework is prohibited until all deficiencies are removed.

## Degree Requirements (4-Year Program)

The Bachelor of Science in Construction Management (BSCM) 4-year degree program consists of 120 credit hours.

### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

One of the required theme courses is satisfied through ECON 2101 as noted in the Business and Management Foundation Courses section below.

### Mathematics and Science Foundation Courses (13 credit hours)

***Required Mathematics/Science Courses***

MATH 1103 - Precalculus Mathematics for Science and Engineering (3 to 5)
MATH 1121 - Calculus for Engineering Technology (3)
PHYS 1101 - Introductory Physics I (3)
PHYS 1101L - Introductory Physics I Laboratory (1)
STAT 1220 - Elements of Statistics I (BUSN) (3)

### Business and Management Foundation Courses (18 credit hours)

ACCT 2121 - Principles of Accounting I (3)
ACCT 2122 - Principles of Accounting II (3)
ECON 2101 - Principles of Economics - Macro (3)
ECON 2102 - Principles of Economics - Micro (3)
INFO 2130 - Introduction to Business Computing (3)
OPER 3100 - Operations Management (3)

### Major Courses (65 credit hours)

CMET 1400 - Introduction to Construction Management (3)
CMET 1680 - Professional Development I: Construction Safety (1)
CMET 2105 - Plan Reading (2)
CMET 2105L - Plan Reading Lab (1)
CMET 2135 - Building Information Modeling (BIM) (3)
CMET 2175 - Survey of Structures (3)
CMET 2221 - Construction Means and Methods (3)
CMET 3123 - Cost Estimating (3)
CMET 3124 - Cost Estimating II (3)
CMET 3126 - Project Planning and Scheduling (3)
CMET 3150 - Construction Law and Contracts (3)
CMET 3224 - Construction Project Administration (3)
CMET 4130 - Infrastructure Systems (3)
CMET 4272 - Capstone Project (3)
CMET 4273 - Capstone II (3)
CMET 4401 - Construction Internship (1)
ETCE 1104 - Civil/Construction CAD Applications (3)
ETCE 1211 - Construction Surveying I (3)
ETCE 1211L - Construction Surveying I Laboratory (1)
ETCE 1222 - Construction Materials (3)
ETCE 2163L - Construction Materials and Structures Lab (1)
ETCE 3131 - Soil Mechanics and Earthwork (3)
ETCE 3131L - Soil Testing Laboratory (1)
ETCE 3271 - Building Systems (3)
ETCE 4350 - Construction Geotechnics and Foundations (3)
ETGR 2101 - Applied Mechanics I (3)

** Must be completed with a grade of C or above.*

### Restricted Elective Courses (6 credit hours)

*Select two of the following from departmental and non-departmental courses:*

***Departmental Courses***

*Two courses may be selected from the following:*

CMET 4073 - Special Topics - Construction Management (1 to 4)
CMET 4125 - Construction Codes, Permits, Compliance and Sustainability (3)
CMET 4126 - Project Scheduling and Control (3)
CMET 4135 - Construction Technologies and Innovation (3)
CMET 4290 - Temporary Structures in Construction (3)
ETCE 4251 - Highway Design and Construction (3)

## Degree Total = 120 Credit Hours

## Progression Requirements

After completing the Common First Year Curriculum (CFY) courses, students will decide on their engineering major for their second through fourth years, which may be the major they initially indicated or any other engineering major. Students must meet the following requirements in order to register for major courses:

### Engineering Majors

Engineering majors must complete all of the requirements below before enrolling in W.S. Lee College of Engineering sophomore-year engineering

courses.

- Pass all courses within two attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1242, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.5 cumulative GPA upon completion of the Common First Year Curriculum courses (2.80 for Mechanical Engineering majors)

**Engineering Technology and Construction Management Majors**
**Civil Engineering Technology**

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Electromechanical Engineering Technology**

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241 with grade of C or above and PHYS 2101 and PHYS 2101L
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Mechanical Engineering Technology**

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.2 cumulative GPA upon completion of the Common First Year Courses

**Construction Management**

- Complete CMET 1400, ETCE 1222, ETCE 1211L, and MATH 1103
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Fire & Safety)**

- Complete ETFS 1152, ETFS 1201, ETFS 1220, ETFS 1244, and MATH 1100
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Occupational Safety)**

- Complete BIOL 1110, ETFS 1201, ETFS 1220, ETGR 2230, MATH 1103, PSYC 1101 and STAT 1220
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

## Special Policies or Requirements

Acceptance of a completed AAS degree indicates the acceptance of up to 64 credit hours toward the Bachelor of Science in Engineering Technology degree program only. These hours may not be valid toward other degree programs at UNC Charlotte.

**Residence Requirements**

A student must earn the last 30 credit hours toward the BSET degree and the last 12 credit hours in the major at UNC Charlotte to satisfy residence requirements.

**Experiential Learning Requirements**

All students must complete an experiential learning course. Experiential courses are practice-oriented courses such as cooperative education, internships, Senior design projects, or undergraduate research.

Internships, or 49erships, involve paid or unpaid work in a career-related position for professional experience. A minimum of 80 work hours and 5 weeks for one semester is required to complete the program. Fall and Spring 49erships are part-time. Summer 49erships may be full- or part-time. Full-time students who are in good University standing, have completed 30 credit hours, and have a 2.00 minimum cumulative GPA are eligible. Internships do not offer academic credit, but are noted on the student's transcript; students pay a course registration fee. Approval for enrollment must be arranged before the student begins a work experience. Students may begin this program during their Sophomore year. Transfer students must complete 12 credit hours at UNC Charlotte before applying to the program. For more information, contact the College of Engineering Office of Student Development and Success or the University Career Center.

---

## Degree Requirements - Other

The Bachelor of Science in Construction Management (BSCM) consists of 120 credit hours which may include up to 60 credit hours of approved courses from an approved A.A.S. degree.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

See University Admission Requirements

**A.A.S. Degree (64 credit hours)**

A.A.S. transfer students from approved programs may receive up to 64 credit hours for approved courses in the A.A.S. degree; thus, A.A.S. students need only to complete the upper-division portion of the courses listed below and remediate any entrance deficiencies noted upon matriculation.

**General Education Courses (12 credit hours)**

Students must take four courses from the general education list of courses. For further details on required courses, refer to the General

Education Program.

**Business and Management Foundation Courses (18 credit hours)**
1000- and 2000-level courses can be evaluated as part of the 64 credit hours through the NCCC Articulation Agreement.

ACCT 2121 - Principles of Accounting I (3)
ACCT 2122 - Principles of Accounting II (3)
ECON 2101 - Principles of Economics - Macro (3)
ECON 2102 - Principles of Economics - Micro (3)
INFO 2130 - Introduction to Business Computing (3)
OPER 3100 - Operations Management (3)

**Major Courses (35 credit hours)**
1000- and 2000-level courses can be evaluated as part of the 64 credit hours through the NCCC Articulation Agreement.

CMET 3123 - Cost Estimating (3)
CMET 3124 - Cost Estimating II (3)
CMET 3126 - Project Planning and Scheduling (3)
CMET 3150 - Construction Law and Contracts (3)
CMET 3224 - Construction Project Administration (3)
CMET 4130 - Infrastructure Systems (3)
CMET 4272 - Capstone Project (3)
CMET 4273 - Capstone II (3)
CMET 4401 - Construction Internship (1)
ETCE 3131 - Soil Mechanics and Earthwork (3)
ETCE 3131L - Soil Testing Laboratory (1)
ETCE 3271 - Building Systems (3)
ETCE 4350 - Construction Geotechnics and Foundations (3)

**Restricted Elective Courses (6 credit hours)**
*Select two of the following from departmental and non-departmental courses:*

***Departmental Courses***
*Two courses may be selected from the following:*
CMET 4073 - Special Topics - Construction Management (1 to 4)
CMET 4125 - Construction Codes, Permits, Compliance and Sustainability (3)
CMET 4126 - Project Scheduling and Control (3)
CMET 4135 - Construction Technologies and Innovation (3)
CMET 4290 - Temporary Structures in Construction (3)
ETCE 4251 - Highway Design and Construction (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

# Bachelor of Science in Construction Management (BSCM) *with Concentration in Applied Energy and Sustainable Systems*

A Concentration in Applied Energy and Sustainable Systems is available to B.S. in Construction Management students. The Bachelor of Science in Construction Management (BSCM) degree program is designed to provide the construction education necessary for entry into the construction industry (residential, commercial, industrial sectors, and heavy horizontal construction) and related careers, including, but not limited to, real estate and land development, infrastructure development, code enforcement, and insurance, among others.

The Construction Management program has been crafted to provide the student with extensive experience and practicum in the fundamentals of Construction Management (Plan Reading, Means and Methods, Cost Estimating, Project Planning and Scheduling and Construction Administration and Risk).

The program is further enhanced by business / management core courses in statistics, computer applications, economics, accounting, organization and supply chain management, and construction law which allows the student to pursue a minor in Business (Operations and Supply Chain Management).

## Admission Requirements
Students for this degree may enter degree programs in the Department of Engineering Technology and Construction Management as First-Year students or as transfer students.

**First-Year Students**
First-year admission is competitive, based upon an overall evaluation of the high school record, with particular emphasis on advanced courses in math and science. See University Admission Requirements for a detailed description of the criteria.

First-Year students may either select a major at the time of their application or may choose to be Engineering-undeclared. All First-Year College of Engineering students will take a common set of courses called the Common First Year. Towards the end of their first year, having completed all progression requirements, students will declare or confirm their Engineering Major for the second through fourth years. This selection may be the major they initially indicated or any other engineering major for which they meet the progression requirements.

**Transfers**
All transfer students will be evaluated for placement into a departmental Program or the Common First Year program based on the evaluation of their transfer credits (consistent with the North Carolina articulation agreements).

- See University Admission Requirements
- Minimum GPA: 2.50 (2.80 for Mechanical Engineering)
- Pre-Major/Prerequisite Courses:
  - Engineering Programs: Calculus I course (equivalent to MATH 1241), with a grade of C or above

    - Engineering Technology Programs: Pre-calculus course (equivalent to MATH 1103) or higher, with a grade of C or above
- Transferable Credit Hours: Minimum of 24

Transfers from an ABET-accredited engineering program who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

**Currently Enrolled Students**
Current UNC Charlotte students who wish to change or declare their major to Construction Management must first satisfy the following requirements in order to be considered eligible for admission:

- Complete MATH 1103 or higher with a grade of C or better.
- Complete PHYS 1101 and PHYS 1101L or higher Physics course with a grade of C or better.
- Achieve a GPA between 2.2 - 4.0.
- Pass all currently attempted required courses within three attempts including withdrawing from a course with a grade of W.
- Students currently enrolled in a required course for a second time must wait until grades are posted before declaring an ETCM major. A student will not be admitted to the major unless the course is passed within three attempts.
- Complete at least one of the following courses for their desired major:
    - ETCE 1222, or CMET 1400 or CMET 1680 with a grade of C or better

Upon satisfying all of the above requirements, students may request admission to an ETCM program by submitting the Change of Major form. Completion of the minimum requirements does not guarantee acceptance into a program.

## Course Requirements
Course requirements correspond to the mode of admission for each student as outlined hereafter.

- **Entering First-Year Students:** Students admitted as First-Year students complete the appropriate four-year curriculum for the program into which they were admitted.
- **Transfer students not holding an appropriate AAS degree:** Transfer students not holding an appropriate AAS degree must complete the remaining coursework outlined for the respective four-year curriculum into which they were admitted after evaluation and application of any transfer credit.
- **Transfer students holding an appropriate AAS degree:** Transfer students with an appropriate Associate of Applied Science (AAS) degree as defined previously under Admission Requirements may begin the program in the Junior year with up to 64 transfer credit hours awarded. Prerequisites for students holding an AAS degree from a community or technical college are listed below.

## Course Prerequisites
Students must have satisfactorily completed the following subjects in their two-year Associate degree program:

- Accounting (6 credit hours)
- Business Computing (3 credit hours)
- Building Information Modeling (3 credit hours)
- Calculus (3 credit hours)
- Construction Materials (3 credit hours)
- Construction Methods (3 credit hours)
- Construction Surveying (4 credit hours)
- English Composition and Technical Writing (6 credit hours)
- Macro Economics (3 credit hours)
- Physics with Lab (3 credit hours)
- Plan Reading (3 credit hours)
- Precalculus (3 credit hours)
- Statics (3 credit hours)
- Statistics (3 credit hours)

## Remediation of Academic Entrance Requirements for AAS Transfer Students
In addition to University and College of Engineering requirements, an AAS transfer student who is admitted to any BSET program without meeting ALL published admission requirements is expected to remove all admission deficiencies within one year. Violators are subject to discontinuance and enrollment in Senior-level coursework is prohibited until all deficiencies are removed.

## Degree Requirements
The Bachelor of Science in Construction Management (BSCM) with Concentration in Applied Energy and Sustainable Systems 4-year degree program consists of 120 credit hours.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

One of the required themed courses is satisfied through ECON 2101 as noted in the Business and Management Foundation Courses section below.

**Mathematics and Science Foundation Courses (13 credit hours)**
***Required Mathematics/Science Courses***
MATH 1103 - Precalculus Mathematics for Science and Engineering (3 to 5)
MATH 1121 - Calculus for Engineering Technology (3)
PHYS 1101 - Introductory Physics I (3)
PHYS 1101L - Introductory Physics I Laboratory (1)
STAT 1220 - Elements of Statistics I (BUSN) (3)

***Elective Mathematics/Science Course***
*Select one of the following:*
CHEM 1251 - General Chemistry I (3)
CHEM 1252 - General Chemistry II (3)
GEOG 1103 - Spatial Thinking (4)
GEOG 1110 - Introduction to Urban and Regional Planning (3)
GEOG 2103 - Elements of GIScience and Technologies (4)
MATH 2164 - Matrices and Linear Algebra (3)
MATH 2342 - Data Analysis and Probability (3)

**Business and Management Foundation Courses (9 credit hours)**
ACCT 2121 - Principles of Accounting I (3)

BLAW 3150 - Business Law I (3)
ECON 2101 - Principles of Economics - Macro (3)

**Major Courses (65 credit hours)**
CMET 1680 - Professional Development I: Construction Safety (1) *
CMET 2105 - Plan Reading (2)
CMET 2135 - Building Information Modeling (BIM) (3)
CMET 2221 - Construction Means and Methods (3)
CMET 3123 - Cost Estimating (3)
CMET 3224 - Construction Project Administration (3)
CMET 3680 - Professional Development III: Professional Ethics (1)
CMET 4126 - Project Scheduling and Control (3)
CMET 4130 - Infrastructure Systems (3)
CMET 4272 - Capstone Project (3)
ETCE 1104 - Civil/Construction CAD Applications (3) *
ETCE 1211 - Construction Surveying I (3) *
ETCE 1211L - Construction Surveying I Laboratory (1) *
ETCE 1222 - Construction Materials (3) *
ETCE 2163L - Construction Materials and Structures Lab (1)
ETCE 2410 - Introduction to Environmental Engineering Technology (3)
ETCE 3131 - Soil Mechanics and Earthwork (3)
ETCE 3131L - Soil Testing Laboratory (1)
ETCE 3163 - Structural Analysis and Design I (3)
ETCE 3271 - Building Systems (3)
ETCE 4350 - Construction Geotechnics and Foundations (3)
ETGR 1100L - Engineering Technology Computer Applications Laboratory (1) *
ETGR 1101 - Introduction to Engineering Technology and Construction Management (1) *
ETGR 2101 - Applied Mechanics I (3) *
ETGR 2102 - Applied Mechanics II (3)
ETGR 3222 - Engineering Economics (3)
ETGR 3295 - Multidisciplinary Professional Development (1)

**Must be completed with a grade of C or above.*

**Concentration Courses (15 credit hours)**
*In addition to required courses ETCE 2410 and ETCE 3242 or ETCE 3271, select three of the following:*

AEEE 4140 - Energy Management (3)
AEEE 4250 - Analysis of Renewable Energy Systems (3)
SEGR 4961 - Introduction to Energy Systems (3)
SEGR 4962 - Energy Markets (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements
After completing the Common First Year Curriculum (CFY) courses, students will decide on their engineering major for their second through fourth years, which may be the major they initially indicated or any other engineering major. Students must meet the following requirements in order to register for major courses:

**Engineering Majors**
Engineering majors must complete all of the requirements below before enrolling in W.S. Lee College of Engineering sophomore-year engineering courses.
- Pass all courses within two attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1242, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.5 cumulative GPA upon completion of the Common First Year Curriculum courses (2.80 for Mechanical Engineering majors)

**Engineering Technology and Construction Management Majors**
**Civil Engineering Technology**
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Electromechanical Engineering Technology**
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241 with grade of C or above and PHYS 2101 and PHYS 2101L
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Mechanical Engineering Technology**
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.2 cumulative GPA upon completion of the Common First Year Courses

**Construction Management**
- Complete CMET 1400, ETCE 1222, ETCE 1211L, and MATH 1103
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Fire & Safety)**
- Complete ETFS 1152, ETFS 1201, ETFS 1220, ETFS 1244, and MATH 1100
- Pass all courses within three attempts, including withdrawing from a course with a grade of W

- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Occupational Safety)**
- Complete BIOL 1110, ETFS 1201, ETFS 1220, ETGR 2230, MATH 1103, PSYC 1101 and STAT 1220
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

### Special Policies or Requirements
Acceptance of a completed AAS degree indicates the acceptance of up to 64 credit hours toward the Bachelor of Science in Engineering Technology degree program only. These hours may not be valid toward other degree programs at UNC Charlotte.

**Residence Requirements**
A student must earn the last 30 credit hours toward the BSET degree and the last 12 credit hours in the major at UNC Charlotte to satisfy residence requirements.

**Experiential Learning Requirements**
All students must complete an experiential learning course. Experiential courses are practice-oriented courses such as cooperative education, internships, Senior design projects, or undergraduate research.

Internships, or 49erships, involve paid or unpaid work in a career-related position for professional experience. A minimum of 80 work hours and 5 weeks for one semester is required to complete the program. Fall and Spring 49erships are part-time. Summer 49erships may be full- or part-time. Full-time students who are in good University standing, have completed 30 credit hours, and have a 2.00 minimum cumulative GPA are eligible. Internships do not offer academic credit, but are noted on the student's transcript; students pay a course registration fee. Approval for enrollment must be arranged before the student begins a work experience. Students may begin this program during their Sophomore year. Transfer students must complete 12 credit hours at UNC Charlotte before applying to the program. For more information, contact the College of Engineering Office of Student Development and Success or the University Career Center.

## Early Entry: Master of Science in Construction and Facilities Engineering
Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.20 overall undergraduate GPA
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

### Progression Requirements
- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.00 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

### Special Policies or Requirements
Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# Civil Engineering Technology
Civil Engineering Technology includes computer-aided drafting (CAD); structures (analysis, design of structural steel and reinforced concrete); construction (cost estimating, construction planning and administration); transportation (surveying, highway design and construction); water resources (hydraulics, hydrology, and environmental); and geotechnical (soil mechanics, foundations, and earthwork).

The Civil Engineering Technology program shares a common curriculum with the Construction Management program for the first two years. Students may move between the common programs until the Junior year when the curricula diverge. At the end of the Sophomore year, students must select either the analysis and design-oriented Civil Engineering Technology BSET degree or the management-oriented BSCM program.

## BSET in Civil Engineering Technology

### Admission Requirements
Students for this degree may enter degree programs in the Department of Engineering Technology and Construction Management as First-Year students or as transfer students.

### First-Year Students

First-year admission is competitive, based upon an overall evaluation of the high school record, with particular emphasis on advanced courses in math and science. See University Admission Requirements for a detailed description of the criteria.

First-Year students may either select a major at the time of their application or may choose to be Engineering-undeclared. All First-Year College of Engineering students will take a common set of courses called the Common First Year. Towards the end of their first year, having completed all progression requirements, students will declare or confirm their Engineering Major for the second through fourth years. This selection may be the major they initially indicated or any other engineering major for which they meet the progression requirements.

### Transfers

All transfer students will be evaluated for placement into a departmental Program or the Common First Year program based on the evaluation of their transfer credits (consistent with the North Carolina articulation agreements).

- See University Admission Requirements
- Minimum GPA: 2.50 (2.80 for Mechanical Engineering)
- Pre-Major/Prerequisite Courses:
  - Engineering Programs: Calculus I course (equivalent to MATH 1241), with a grade of C or above
  - Engineering Technology Programs: Pre-calculus course (equivalent to MATH 1103) or higher, with a grade of C or above
- Transferable Credit Hours: Minimum of 24

Transfers from an ABET-accredited engineering program who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

### Currently Enrolled Students

Current UNC Charlotte students who wish to change or declare their major to Civil Engineering Technology must:

- Complete the College of Engineering Common First Year (or equivalent courses) in order to be considered eligible for admission. See **Common First-Year Courses** below.
- Achieve a GPA between 2.2 - 4.0.
- Pass all currently attempted required courses within three attempts including withdrawing from a course with a grade of W.

Upon satisfying all of the above requirements, students may request admission to an ETCM program by submitting the Change of Major form. Completion of the minimum requirements does not guarantee acceptance into a program.

## Course Requirements

Course requirements correspond to the mode of admission for each student as outlined hereafter.

- **Entering First-Year Students:** Students admitted as First-Year students complete the appropriate four-year curriculum for the program into which they were admitted.
- **Transfer students not holding an appropriate AAS degree:** Transfer students not holding an appropriate AAS degree must complete the remaining coursework outlined for the respective four-year curriculum into which they were admitted after evaluation and application of any transfer credit.
- **Transfer students holding an appropriate AAS degree:** Transfer students with an appropriate Associate of Applied Science (AAS) degree as defined previously under Admission Requirements may begin the program in the Junior year with up to 64 transfer credit hours awarded. Prerequisites for students holding an AAS degree from a community or technical college are listed below.

## Prerequisite Courses for AAS Transfers

Students transferring with an AAS degree must have satisfactorily completed the following subjects in their two-year program:

- English Composition, Technical Writing, and/or Public Speaking (3 credit hours)
- Pre-calculus (3 credit hours)
- Differential and Integral Calculus (6 credit hours)
- General Physics (with lab) (4 credit hours)
- Additional Physics (with lab) or Geology (3-4 credit hours)
- Technical Courses in Major Area (up to 41 credit hours)
  - ET Computer Applications
  - Computer-Aided Drafting
  - Construction Surveying
  - Statics
  - Strength of Materials
  - Construction Materials with Lab
  - Construction Methods
  - Hydraulics or hydrology or environmental technology
  - Building Information Modeling
  - Plan Reading and Quantity Takeoffs

## Remediation of Academic Entrance Requirements for AAS Transfer Students

In addition to University and College of Engineering requirements, an AAS transfer student who is admitted to any BSET program without meeting ALL published admission requirements is expected to remove all admission deficiencies within one year. Violators are subject to discontinuance and enrollment in Senior-level coursework is prohibited until all deficiencies are removed.

## Common First-Year Curriculum (CFY)

The College of Engineering uses a Common First-Year Curriculum (CFY) for all Engineering students in order to:

- Provide a strong academic base of foundational knowledge and skills
- Facilitate changing majors within the first year
- Support students with lower math placement and increase access to all majors
- Allow students to explore different majors before committing
- Enhance learning with innovative pedagogies and activities

### Common First-Year Courses

All new first-year students are initially advised by a central office within the W.S. Lee College of Engineering. Students must complete the following classes that are common to all majors of the college (except Construction Management and Fire and Safety Engineering Technology)

in order to progress and matriculate to their major department. *All First-Year Curriculum courses require a grade of C or better.*

ENGR 1300 Exploring Engineering & Technology with Success (2)
ENGR 1301 Foundations of Math and Science for Engineering (3)
ENGR 1302 Logic and Computational Problem Solving (3)
ENGR 1303 Engineering Visualization and Graphical Communication (3)
PHYS 2101 (3)
PHYS 2101L (1)
Two MATH courses: MATH 1103* or MATH 1241* or MATH 1242* (3 each)
*See Notes 1 and 2 below*

* All students should consult their advisor to select the math courses that match their planned major.

***Note 1***
Progression into Civil Engineering, Computer Engineering, Construction Engineering, Electrical Engineering, Environmental Engineering, Mechanical Engineering, and Systems Engineering Major Courses after completing the Common First Year Curriculum requires that students also complete MATH 1241, MATH 1242, PHYS 2101, and PHYS 2101L.

***Note 2***
Progression into Civil Engineering Technology, Electromechanical Engineering Technology, and Mechanical Engineering Technology Major Courses after completing the Common First Year Curriculum requires that students complete MATH 1241, PHYS 2101, and PHYS 2101L with a C or better (except for Electromechanical Engineering Technology).

***Note 3***
Students must earn at least a 2.0 GPA in the first semester to continue into the second semester.

## Degree Requirements (4-Year Program)

The BSET in Civil Engineering Technology program consists of 120 credit hours.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**First-Year Courses (21 credit hours)**
See Common First-Year Curriculum (CFY) for details.

**Mathematics and Science Foundation Courses (12 credit hours)**
ETGR 2272 - Engineering Analysis II (3)
GEOL 1200 - Physical Geology (3)
PHYS 2102 - Physics for Science and Engineering II (3)
STAT 1220 - Elements of Statistics I (BUSN) (3)

**Major Courses (66 credit hours)**
CMET 1680 - Professional Development I: Construction Safety (1) *
CMET 2105 - Plan Reading (3)
CMET 2135 - Building Information Modeling (BIM) (3)
CMET 2221 - Construction Means and Methods (3)
CMET 3123 - Cost Estimating (3)
CMET 3224 - Construction Project Administration (3)
CMET 3680 - Professional Development III: Professional Ethics (1)
ETCE 1104 - Civil/Construction CAD Applications (3)*
ETCE 1211 - Construction Surveying I (3)*
ETCE 1211L - Construction Surveying I Lab (1)*
ETCE 1222 - Construction Materials (3)*
ETCE 2163L - Construction Materials and Structures Lab (1)
ETCE 2410 - Introduction to Environmental Engineering Technology (3)
ETCE 3131 - Soil Mechanics and Earthwork (3)
ETCE 3131L - Soil Testing Lab (1)
ETCE 3242 - Hydraulics and Hydrology (3)
ETCE 3264 - Structural Analysis (3)
ETCE 4165 - Structural Steel Design (3)
ETCE 4251 - Highway Design and Construction (3)
ETCE 4266 - Reinforced Concrete Design (3)
ETCE 4272 - Capstone Project (3)
ETCE 4350 - Construction Geotechnics and Foundations (3)
ETGR 2101 - Applied Mechanics I (3)
ETGR 2102 - Applied Mechanics II (3)
ETGR 3222 - Engineering Economics (3)
ETGR 3295 - Multidisciplinary Professional Development (1)

**Course must be completed with a grade of C or above.*

**Restricted Elective Course (3 credit hours)**
*Select one of the following:*
ETGR 2106 - Electronic Circuits and Devices (3)
ETGR 4272 - Engineering Analysis IV (3)
CMET 4073 - Special Topics - Construction Management (1to 4)
CMET 4126 - Project Scheduling and Control (3)
CMET 4130 - Infrastructure Systems (3)
CMET 4135 – Construction Technologies and Innovation (3)
CMET 4290 - Temporary Structures in Construction (3)
ELET 2241 - Instrumentation and Controls (3) -
ETCE 3271 - Building Systems (3)
ETCE 4073 - Special Topics - Civil Engineering Technology (1 to 4)
ETCE 4344 - Applied Hydrology and Storm Water Management (3)
ETME 3113 - Dynamics (3)
ETME 3143 - Thermodynamics (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements

***First-Year Requirements***
All new First-Year students, early college students, and transfer students with only one semester at another institution are initially advised by a central office within the College of Engineering. Students must satisfy the following requirements in order to progress in the curriculum and matriculate to their major department.

- Follow the advice and recommendations of their faculty advisors.

- Follow all prerequisite, corequisite, and progression requirements of their program.
- Earn at least a 2.00 GPA in the first semester.
- Complete all core courses in the First-Year curriculum with grades of C or above. Core courses include: ETCE 1104, ETCE 1211 and ETCE 1211L, ETCE 1222, CMET 1680, CMET 2105, in addition to ETGR 1201 and the First-Year science and math requirements.
- Pass all courses within three attempts, including withdrawing from a course with a grade of W.
- Complete the First-Year curriculum within four regular semesters.
- Earn a 2.00 cumulative GPA upon completion of the First-Year curriculum.

### *Sophomore Through Senior Year Requirements*

- Maintain an overall GPA of 2.00 in the University.
- Maintain a major cumulative GPA of 2.00 for all courses in the departmental curriculum. Failure to meet this requirement for two consecutive semesters will result in not being permitted to enroll in College of Engineering courses.
- Take courses in the curriculum a maximum of three times to achieve a satisfactory grade, including withdrawing from the course with a grade of W.

An undergraduate student who fails to satisfy one or more of the progression requirements stated above, but who nonetheless meets the conditions for continued enrollment in the University, will be ineligible to re-enroll in the College of Engineering unless an appeal is accepted by the College of Engineering. If an appeal is accepted, requirements for continued enrollment appropriate to the individual situation are specified in a "Continuation Agreement" that is mutually agreed upon and signed by the student and their appropriate advisor.

A student who has been suspended by the University must follow University guidelines for appeal. Re-admission to the College of Engineering after a University suspension is not automatic. An application for re-admission must be made by the student and approved by the College/department. Students who are re-admitted by the College of Engineering after suspension by the University must meet requirements for continued enrollment appropriate to their individual situation. These requirements are specified in a "Continuation Agreement" that is mutually agreed upon and signed by the student and their appropriate advisor. The consequences of failure to meet the requirements of the agreement may be articulated in the agreement itself. However, if these consequences are not included in the agreement, failure to meet the requirements will automatically result in the student not being permitted to continue to enroll in College of Engineering courses.

## Special Policies or Requirements

Acceptance of a completed AAS degree indicates the acceptance of up to 64 credit hours toward the Bachelor of Science in Engineering Technology degree program only. These hours may not be valid toward other degree programs at UNC Charlotte.

### Residence Requirements

A student must earn the last 30 credit hours toward the BSET degree and the last 12 credit hours in the major at UNC Charlotte to satisfy residence requirements.

### Experiential Learning Requirements

All students must complete an experiential learning course. Experiential courses are practice-oriented courses such as cooperative education, internships, senior design projects, or undergraduate research.
Internships, or 49erships, involve paid or unpaid work in a career-related position for professional experience. A minimum of 80 work hours and 5 weeks for one semester is required to complete the program. Fall and Spring 49erships are part-time. Summer 49erships may be full- or part-time. Full-time students who are in good University standing, have completed 30 credit hours, and have a 2.0 minimum cumulative GPA are eligible. Internships do not offer academic credit, but are noted on the student's transcript; students pay a course registration fee. Approval for enrollment must be arranged before the student begins a work experience. Students may begin this program during their Sophomore year. Transfer students must complete 12 credit hours at UNC Charlotte before applying to the program. For more information, contact the College of Engineering Office of Student Development and Success or the University Career Center.

---

## Degree Requirements (Other)

The B.S. in Civil Engineering Technology (BSET) consists of 120 credit hours, which may include up to 64 credit hours of approved courses from an approved A.A.S. degree.

## Admission Requirements

### Current UNC Charlotte Undergraduate Students

See University Admission Requirements

### A.A.S. Degree (60 credit hours)

A.A.S. transfer students from approved programs may receive up to 60 credit hours for approved courses in the A.A.S. degree; thus, A.A.S. students need only to complete the upper-division portion of the courses listed below and remediate any entrance deficiencies noted upon matriculation.

### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

Students must select three courses from the General Education program. For further details, refer to the General Education Program.

### Mathematics and Science Foundation Courses (9 credit hours)

ETGR 3171 - Engineering Analysis III (3)
or ETGR 4272 - Engineering Analysis IV (3)
GEOL 1200 - Physical Geology (3)

### *Math/Science Elective Course*

*Select one of the following:*
CHEM 1251 - General Chemistry I (3)
CHEM 1252 - General Chemistry II (3)
GEOG 1103 - Spatial Thinking (4)
GEOG 1110 - Introduction to Urban and Regional Planning (3)
GEOG 2103 - Elements of GIScience and Technologies (4)
MATH 2164 - Matrices and Linear Algebra (3)

MATH 2342 - Data Analysis and Probability (3)

**Major Courses (36 credit hours)**
CMET 3123 - Cost Estimating (3)
CMET 3224 - Construction Project Administration (3)
CMET 3680 - Professional Development III: Professional Ethics (1)
ETCE 3131 - Soil Mechanics and Earthwork (3)
ETCE 3131L - Soil Testing Lab (1)
ETCE 3242 - Hydraulics and Hydrology (3)
ETCE 3264 - Structural Analysis (3)
ETCE 4165 - Structural Steel Design (3)
ETCE 4251 - Highway Design and Construction (3)
ETCE 4266 - Reinforced Concrete Design (3)
ETCE 4272 - Capstone Project (3)
ETCE 4350 - Construction Geotechnics and Foundations (3)
ETGR 3222 - Engineering Economics (3)
ETGR 3295 - Multidisciplinary Professional Development (1)

**Restricted Elective Courses (6 credit hours)**
*Select two of the following. Only one course may be non-departmental.*

***Departmental Courses***
*Two courses may be selected from this list:*
ETGR 2106 - Electronic Circuits and Devices (3)
ETGR 4272 - Engineering Analysis IV (3)
CMET 4073 - Special Topics - Construction Management (1 to 4)
CMET 4126 - Project Scheduling and Control (3)
CMET 4130 - Infrastructure Systems (3)
CMET 4135 – Construction Technologies and Innovation (3)
CMET 4290 - Temporary Structures in Construction (3)
ELET 2241 - Instrumentation and Controls (3)
ETCE 3271 - Building Systems (3)
ETCE 4073 - Special Topics - Civil Engineering Technology (1 to 4)
ETCE 4344 - Applied Hydrology and Storm Water Management (3)
ETME 3113 - Dynamics (3)
ETME 3143 - Thermodynamics (3)

***Non-Departmental Courses***
*Maximum of one course may be selected from this list:*
GEOG 3115 - Urban Transportation Problems (3)
GEOG 3120 - Fundamentals of Geographic Information Systems (4)
GEOG 3200 - Land Use Planning (3)
GEOG 3210 - Regional Planning (3)
GEOG 3215 - Environmental Planning (3)
GEOL 3190 - Environmental Geology (3)
GEOL 4145 - Hydrogeology (4)
CHEM 1252 - General Chemistry II (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

# BSET in Civil Engineering Technology *with Concentration in Applied Energy and Sustainable Systems*

A Concentration in Applied Energy and Sustainable Systems is available to BSET in Civil Engineering Technology students.

## Admission Requirements
Students for this degree may enter degree programs in the Department of Engineering Technology and Construction Management as First-Year students or as transfer students.

**First-Year Students**
First-year admission is competitive, based upon an overall evaluation of the high school record, with particular emphasis on advanced courses in math and science. See University Admission Requirements for a detailed description of the criteria.

First-Year students may either select a major at the time of their application or may choose to be Engineering-undeclared. All First-Year College of Engineering students will take a common set of courses called the Common First Year. Towards the end of their first year, having completed all progression requirements, students will declare or confirm their Engineering Major for the second through fourth years. This selection may be the major they initially indicated or any other engineering major for which they meet the progression requirements.

**Transfers**
All transfer students will be evaluated for placement into a departmental Program or the Common First Year program based on the evaluation of their transfer credits (consistent with the North Carolina articulation agreements).

- See University Admission Requirements
- Minimum GPA: 2.50 (2.80 for Mechanical Engineering)
- Pre-Major/Prerequisite Courses:
  - Engineering Programs: Calculus I course (equivalent to MATH 1241), with a grade of C or above
  - Engineering Technology Programs: Pre-calculus course (equivalent to MATH 1103) or higher, with a grade of C or above
- Transferable Credit Hours: Minimum of 24

Transfers from an ABET-accredited engineering program who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

**Currently Enrolled Students**
Current UNC Charlotte students who wish to change or declare their major to Civil Engineering Technology must:

- Complete the College of Engineering Common First Year (or equivalent courses) in order to be considered eligible for admission. See **Common First-Year Courses** below.
- Achieve a GPA between 2.2 - 4.0.
- Pass all currently attempted required courses within three attempts including withdrawing from a course with a grade of W.

Upon satisfying all of the above requirements, students may request admission to an ETCM program by submitting the Change of Major form. Completion of the minimum requirements does not guarantee acceptance into a program.

## Course Requirements

Course requirements correspond to the mode of admission for each student as outlined hereafter.

- **Entering First-Year Students:** Students admitted as First-Year students complete the appropriate four-year curriculum for the program into which they were admitted.
- **Transfer students not holding an appropriate AAS degree:** Transfer students not holding an appropriate AAS degree must complete the remaining coursework outlined for the respective four-year curriculum into which they were admitted after evaluation and application of any transfer credit.
- **Transfer students holding an appropriate AAS degree:** Transfer students with an appropriate Associate of Applied Science (AAS) degree as defined previously under Admission Requirements may begin the program in the Junior year with up to 64 transfer credit hours awarded. Prerequisites for students holding an AAS degree from a community or technical college are listed below.

## Prerequisite Courses for AAS Transfers

Students transferring with an AAS degree must have satisfactorily completed the following subjects in their two-year program:

- English Composition, Technical Writing, and/or Public Speaking (3 credit hours)
- Precalculus (3 credit hours)
- General Physics (with lab) (4 credit hours)
- Additional Physics (with lab) or Geology (3-4 credit hours)
- Technical Courses in Major Area (up to 41 credit hours)
    - ET Computer Applications
    - Computer Aided Drafting
    - Construction Surveying
    - Statics
    - Strength of Materials
    - Construction Materials with Lab
    - Construction Methods
    - Hydraulics or hydrology or environmental technology
    - Building Information Modeling
    - Plan Reading and Quantity Takeoff

## Remediation of Academic Entrance Requirements for AAS Transfer Students

In addition to University and College of Engineering requirements, an AAS transfer student who is admitted to any BSET program without meeting ALL published admission requirements is expected to remove all admission deficiencies within one year. Violators are subject to discontinuance and enrollment in Senior-level coursework is prohibited until all deficiencies are removed.

## Common First-Year Curriculum (CFY)

The College of Engineering uses a Common First-Year Curriculum (CFY) for all Engineering students in order to:

- Provide a strong academic base of foundational knowledge and skills
- Facilitate changing majors within the first year
- Support students with lower math placement and increase access to all majors
- Allow students to explore different majors before committing
- Enhance learning with innovative pedagogies and activities

### Common First-Year Courses

All new first-year students are initially advised by a central office within the W.S. Lee College of Engineering. Students must complete the following classes that are common to all majors of the college (except Construction Management and Fire and Safety Engineering Technology) in order to progress and matriculate to their major department. *All First-Year Curriculum courses require a grade of C or better.*

ENGR 1300 Exploring Engineering & Technology with Success (2)
ENGR 1301 Foundations of Math and Science for Engineering (3)
ENGR 1302 Logic and Computational Problem Solving (3)
ENGR 1303 Engineering Visualization and Graphical Communication (3)
PHYS 2101 (3)
PHYS 2101L (1)
Two MATH courses: MATH 1103* or MATH 1241* or MATH 1242* (3 each)
*See Notes 1 and 2 below*

* All students should consult their advisor to select the math courses that match their planned major.

***Note 1***

Progression into Civil Engineering, Computer Engineering, Construction Engineering, Electrical Engineering, Environmental Engineering, Mechanical Engineering, and Systems Engineering Major Courses after completing the Common First Year Curriculum requires that students also complete MATH 1241, MATH 1242, PHYS 2101, and PHYS 2101L.

***Note 2***

Progression into Civil Engineering Technology, Electromechanical Engineering Technology, and Mechanical Engineering Technology Major Courses after completing the Common First Year Curriculum requires that students complete MATH 1241, PHYS 2101, and PHYS 2101L with a C or better (except for Electromechanical Engineering Technology).

***Note 3***

Students must earn at least a 2.0 GPA in the first semester to continue into the second semester.

## Degree Requirements

The BSET in Civil Engineering Technology with Concentration in Applied Energy and Sustainable Systems consists of 120 credit hours.

### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

### Mathematics and Science Foundation Courses (28 credit hours)

ETGR 2272 - Engineering Analysis II (3)
ETGR 3171 - Engineering Analysis III (3)
or ETGR 4272 - Engineering Analysis IV (3)

GEOL 1200 - Physical Geography (3)
MATH 1103 - Precalculus Mathematics for Science and Engineering (3 to 5)*
MATH 1121 - Calculus for Engineering Technology (3)*
PHYS 1101 - Introductory Physics I (3)*
PHYS 1101L - Introductory Physics I Lab (1)*
PHYS 1102 - Introductory Physics II (3)
STAT 1220 - Elements of Statistics I (BUSN) (3)

***Math/Science Elective Course***
*Select one of the following:*
CHEM 1251 - General Chemistry I (3)
CHEM 1252 - General Chemistry II (3)
GEOG 1103 - Spatial Thinking (4)
GEOG 1110 - Introduction to Urban and Regional Planning (3)
GEOG 2103 - Elements of GIScience and Technologies (4)
MATH 2164 - Matrices and Linear Algebra (3)
MATH 2342 - Data Analysis and Probability (3)

**Major Courses (68 credit hours)**
CMET 1680 - Professional Development I: Construction Safety (1) *
CMET 2105 - Plan Reading (3)
CMET 2135 - Building Information Modeling (BIM) (3)
CMET 2221 - Construction Means and Methods (3)
CMET 3123 - Cost Estimating (3)
CMET 3224 - Construction Project Administration (3)
CMET 3680 - Professional Development III: Professional Ethics (1)
ETCE 1104 - Civil/Construction CAD Applications (3) *
ETCE 1211 - Construction Surveying I (3) *
ETCE 1211L - Construction Surveying I Laboratory (1) *
ETCE 1222 - Construction Materials (3) *
ETCE 2163L - Construction Materials and Structures Lab (1)
ETCE 2410 - Introduction to Environmental Engineering Technology (3)
ETCE 3131 - Soil Mechanics and Earthwork (3)
ETCE 3131L - Soil Testing Laboratory (1)
ETCE 3242 - Hydraulics and Hydrology (3)
ETCE 3264 - Structural Analysis (3)
ETCE 4165 - Structural Steel Design (3)
ETCE 4251 - Highway Design and Construction (3)
ETCE 4266 - Reinforced Concrete Design (3)
ETCE 4272 - Capstone Project (3)
ETCE 4350 - Construction Geotechnics and Foundations (3)
ETGR 1100L - Engineering Technology Computer Applications Laboratory (1) *
ETGR 1101 - Introduction to Engineering Technology and Construction Management (1) *
ETGR 2101 - Applied Mechanics I (3) *
ETGR 2102 - Applied Mechanics II (3)
ETGR 3222 - Engineering Economics (3)
ETGR 3295 - Multidisciplinary Professional Development (1)

**Course must be completed with a grade of C or above.*

**Concentration Courses (12 credit hours)**
In addition to required courses ETCE 2410 and ETCE 3242, select two of the following:

AEEE 4140 - Energy Management (3)
AEEE 4250 - Analysis of Renewable Energy Systems (3)
ETCE 3271 - Building Systems (3)
SEGR 4961 - Introduction to Energy Systems (3)
SEGR 4962 - Energy Markets (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements
After completing the Common First Year Curriculum (CFY) courses, students will decide on their engineering major for their second through fourth years, which may be the major they initially indicated or any other engineering major. Students must meet the following requirements in order to register for major courses:

**Engineering Majors**
Engineering majors must complete all of the requirements below before enrolling in W.S. Lee College of Engineering sophomore-year engineering courses.
- Pass all courses within two attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1242, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.5 cumulative GPA upon completion of the Common First Year Curriculum courses (2.80 for Mechanical Engineering majors)

**Engineering Technology and Construction Management Majors**
**Civil Engineering Technology**
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Electromechanical Engineering Technology**
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241 with grade of C or above and PHYS 2101 and PHYS 2101L
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Mechanical Engineering Technology**

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.2 cumulative GPA upon completion of the Common First Year Courses

**Construction Management**
- Complete CMET 1400, ETCE 1222, ETCE 1211L, and MATH 1103
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Fire & Safety)**
- Complete ETFS 1152, ETFS 1201, ETFS 1220, ETFS 1244, and MATH 1100
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Occupational Safety)**
- Complete BIOL 1110, ETFS 1201, ETFS 1220, ETGR 2230, MATH 1103, PSYC 1101 and STAT 1220
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

### Special Policies or Requirements
Acceptance of a completed AAS degree indicates the acceptance of up to 64 credit hours toward the Bachelor of Science in Engineering Technology degree program only. These hours may not be valid toward other degree programs at UNC Charlotte.

**Residence Requirements**
A student must earn the last 30 credit hours toward the BSET degree and the last 12 credit hours in the major at UNC Charlotte to satisfy residence requirements.

**Experiential Learning Requirements**
All students must complete an experiential learning course. Experiential courses are practice-oriented courses such as cooperative education, internships, senior design projects, or undergraduate research.
Internships, or 49erships, involve paid or unpaid work in a career-related position for professional experience. A minimum of 80 work hours and 5 weeks for one semester is required to complete the program. Fall and Spring 49erships are part-time. Summer 49erships may be full- or part-time. Full-time students who are in good University standing, have completed 30 credit hours, and have a 2.0 minimum cumulative GPA are eligible. Internships do not offer academic credit, but are noted on the student's transcript; students pay a course registration fee. Approval for enrollment must be arranged before the student begins a work experience. Students may begin this program during their Sophomore year. Transfer students must complete 12 credit hours at UNC Charlotte before applying to the program. For more information, contact the College of Engineering Office of Student Development and Success or the University Career Center.

# Fire and Safety Engineering Technology
The Fire and Safety Engineering Technology (FSET) program at UNC Charlotte prepares graduates of the BSET program for careers across a broad spectrum of technologies. The program has emphasis on both technical and non-technical aspects in the fields of fire and safety.

Concentrations within the program include Fire Safety and Occupational Safety. Many of the lower division courses are common between the concentrations, while the upper division allows specialization within the chosen concentration area.

## BSET in Fire and Safety Engineering Technology *with Concentration in Fire Safety*
The Concentration in Fire Safety is intended for students who seek a career within the fire service. The curriculum is designed to prepare students for increasingly responsible roles in leadership and management. In addition, the program provides comprehensive classes dealing with fire behavior, active and passive protection systems as well as the foundational principles of research investigation. Students completing the requirements identified for this concentration will receive a special designation on their transcripts showing they have completed the Fire Safety concentration.

### Admission Requirements
Students for this degree may enter degree programs in the Department of Engineering Technology and Construction Management as First-Year students or as transfer students.

**First-Year Students**
Applicants entering as First-Year students must meet the general University admission requirements. See University Admission Requirements.

**Transfers**
See University Admission Requirements.

Transfer admission into the department occurs in one of two situations:

1. Transfer applicants who do not have the Associate in Applied Science (AAS) degree or its equivalent must meet general University admission requirements.
2. Transfer applicants with an Associate of Applied Science (AAS) degree must:
    - Hold an Associate of Applied Science (AAS) degree in a field appropriate to the option they plan to enter. Acceptable AAS degrees may include: Fire Protection, Fire Science, or similar title with curriculum acceptable to the department. A minimum GPA of 2.50 (out of 4.00) in the AAS degree is

required.
- Have completed satisfactorily the prerequisite background courses for the option they plan to enter. Missing background courses may be taken at UNC Charlotte.

**Currently Enrolled Students**
Current UNC Charlotte students who wish to change or declare their major to Fire and Safety Engineering Technology must first satisfy the following requirements in order to be considered eligible for admission:

- Complete MATH 1100 or higher with a grade of C or better.
- Achieve a GPA between 2.2 - 4.0.
- Pass all currently attempted required courses within three attempts including withdrawing from a course with a grade of W.
- Students currently enrolled in a required course for a second time must wait until grades are posted before declaring an ETCM major. A student will not be admitted to the major unless the course is passed within three attempts.
- Complete at least one ETFS course from the curriculum courses listed below.
    - ETFS 1120 Introduction to Fire Protection
    - ETFS 1152 Fire Protection Law
    - ETFS 2124 Introduction to Fire Prevention
    - ETFS 2132 Building Construction for the Fire Service
    - ETFS 2256 Fire Service Community Relations

Upon satisfying all of the above requirements, students may request admission to an ETCM program by submitting the Change of Major form. Completion of the minimum requirements does not guarantee acceptance into a program.

## Course Requirements
Course requirements correspond to the mode of admission for each student as outlined hereafter. All ETFS courses require a grade of C or better. Other courses required may also have this requirement since they may serve as a prerequisite.

- **Entering First-Year Students:** Students admitted as First-Year students complete the appropriate four-year curriculum for the program into which they were admitted.
- **Transfer students not holding an appropriate AAS degree:** Transfer students not holding an appropriate AAS degree must complete the remaining coursework outlined for the respective four-year curriculum into which they were admitted after evaluation and application of any transfer credit.
- **Transfer students holding an appropriate AAS degree:** Transfer students with an appropriate Associate of Applied Science (AAS) in Fire Protection degree may begin the program in the Junior year with up to 64 transfer credit hours awarded. Prerequisites for students holding an AAS degree from a community or technical college are listed below.

## Prerequisite Courses for AAS Transfers
Students transferring with an AAS degree must have satisfactorily completed the following subjects in their two-year program:

- College Algebra (3 credit hours) or higher
- STAT 1220 (3 credit hours) equivalent
- Approved transfer science with lab (4 hours) PHYS 1101 with lab equivalent
- Approved transfer science course (3 credit hours) Chemistry 12xx equivalent
- Introduction to Fire Prevention (3 hours)
- Introduction to Fire Protection (3 hours)
- Building Construction or equivalent (3 hours)
- Fire Protection and Safety Law (3 hours)
- Fire and Municipal Financial Ops (3 hours)
- Computer-Aided Drafting (3 hours) or equivalent

## Remediation of Academic Entrance Requirements for AAS Transfer Students
In addition to University and College of Engineering requirements, an AAS transfer student who is admitted to any BSET program without meeting ALL published admission requirements is expected to remove all admission deficiencies within one year. Violators are subject to discontinuance and enrollment in Senior-level coursework is prohibited until all deficiencies are removed.

## Degree Requirements (4-Year Program)
The BSET in Fire and Safety Engineering Technology with a Concentration in Fire Safety program consists of 120 credit hours.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Mathematics and Science Foundation Courses (13 credit hours)**
All Mathematics and Science Foundation courses require a grade of C or better.
CHEM 12XX - Chemistry (3)
MATH 1100 - College Algebra (3)
PHYS 1101 - Introductory Physics I (3)
PHYS 1101L - Introductory Physics I Laboratory (1)
STAT 1220 - Elements of Statistics I (BUSN) (3)

**Major Courses (80 credit hours)**
All Major courses require a grade of C or better for the Fire and Safety Engineering Technology curriculum.

ETFS 1120 - Introduction to Fire Protection (3)
ETFS 1152 - Fire Protection and Safety Law (3)
ETFS 1201 - Introduction to Fire Safety and Occupational Safety Engineering Technology (2)
ETFS 1244 - Water-Based Fire Suppression (3)
ETFS 2124 - Introduction to Fire Prevention (3)
ETFS 2126 - Fire Investigation and Forensics (3)
ETFS 2128 - Fire and Municipal Financial Operations (3)
ETFS 2132 - Building Construction for Fire Protection (3)
ETFS 2220 - History of Fire in the US (3)
ETFS 2230L - Hazardous Materials Lab (1)
ETFS 2230 - Hazardous Materials (3)

ETFS 2256 - Fire Service Community Relations (3)
ETFS 3103 - Fire Behavior (3)
ETFS 3103L - Fire Behavior Lab (1)
ETFS 3123 - Industrial Hazards and Electricity (3)
ETFS 3124 - Risk Management (3)
ETFS 3141 - Fire Safety in Constructed Facilities (3)
ETFS 3144 - Active Fire Protection (3)
ETFS 3695 - Fire Safety Prof. Development Seminar (1)
ETFS 4123 - Community Threat Assessment and Mitigation (3)
ETFS 4272 - Fire and Safety Capstone (3)
ETFS 4280 - Wildland Fire in America (3)
ETFS 4323 - Advanced Fire Service Administration (3)
ETFS 4901 - Fire Safety Research & Data Analysis (3)
ETGR 1103 - Technical Drawing I (3)
ETGR 2230 - Occupational Safety (3)
ETGR 4301 - Environmental Pollution Control (3)
PSYC 1101 - General Psychology (3)
PSYC 2320 - Introduction to Industrial/Organizational Psychology (3)

**Restricted Elective Courses (9 credit hours)**
Select three 2000, 3000- or 4000-level courses within the Department of Engineering Technology and Construction Management with a minimum of 9 credit hours that are not already required for the major. *Select from the following:*

CMET 2105 - Plan Reading (2)
CMET 2105L - Plan Reading Lab (1)
CMET 2221 - Construction Means and Methods (3)
ENGR 2800 - College of Engineering Ambassadors' Leadership Development (1 to 3)
ENGR 3095 - Leadership Academy (0)
ENGR 3790 - Engineering Honors Seminar I (1)
ENGR 3791 - Engineering Honors Seminar II (1)
ETCE 1222 - Construction Materials (3)
ETCE 2112L - Constructions Surveying and Layout Laboratory (0)
ETCE 2163L - Construction Materials and Structures Lab (1)
ETCE 3163 - Structural Analysis and Design I (3)
ETCE 3163L - Structures and Materials Laboratory (1)
ETCE 3242 - Hydraulics and Hydrology (3)
ETCE 3242L - Hydraulics Laboratory (1)
ETCE 3264 - Structural Analysis (3)
ETCE 3271 - Building Systems (3)
ETCE 3271L - Building Systems Laboratory (1)
ETCE 4266 - Reinforced Concrete Design (3)
ETEM 2101 - Circuit Fundamentals (3)
ETEM 2161 - Foundations of Mechanics (3)
ETEM 2171 - Algorithms and Programming (3)
ETEM 2271 - Digital Fundamentals (3)
ETEM 3131 - Electromechanical Devices (3)
ETFS 3400 - Fire Safety/Occupational Safety Practicum (1 to 4)
ETFS 3621 - Technology and Innovation in the Fire Service (3)
ETFS 3800 - Independent Study (1 to 3)
ETFS 4123 - Community Threat Assessment and Mitigation (3)
ETFS 4126 - Case Studies in Fire Forensics (3)
ETFS 4132 - Fireground Hydraulics (3)
ETFS 4283 - Fire Modeling (3)
ETFS 4285 - Fatalities in Wildland Fires (3)
ETGR 2101 - Applied Mechanics I (3)
ETGR 2102 - Applied Mechanics II (3)
ETGR 2106 - Electronic Circuits and Devices (3)
ETGR 3222 - Engineering Economics (3)
ETGR 4302 - Industrial Hygiene (3)
ETGR 4303 - Applied Ergonomics and Human Factors (3)
ETGR 4305 - System Safety Design and Management (3)
ETME 3113 - Dynamics (3)
ETME 3143 - Thermodynamics (3)
MEET 3250 - Fluid Mechanics (3)
MEET 3251 - Principles of Thermal Engineering (3)
MEET 3301 - Strength of Materials (3)
MEET 3301L - Stress Analysis Laboratory (1)
ETME 4244 - Applied Heat Transfer (3)

*Note: Courses withing the Department of Engineering Technology and Construction Management utilized for electives require a grade of C or better.*

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 credit hours

---

## Degree Requirements - Other

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

**A.A.S. Degree (64 credit hours)**
A.A.S. transfer students from approved programs receive up to 64 credit hours for the A.A.S. degree; thus, A.A.S. students need only to complete the upper-division portion of the courses listed below and remediate any entrance deficiencies noted upon matriculation.

**General Education Requirements (31-32 credit hours)**
Students entering UNC Charlotte with an approved AAS degree from a North Carolina Community College (NCCU) will complete a modified General Education course block. General Education hours required to be completed at UNC Charlotte may vary based on transfer credit equivalencies/transfer credit awarded.

**Major Courses (48 credit hours)**
All Major courses require a grade of C or better for the Fire and Safety Engineering Technology curriculum.

ETFS 2220 - History of Fire in the US (3)
ETFS 2230 - Hazardous Materials (3)
ETFS 2230L - Hazardous Materials Lab (1)
ETFS 3103 - Fire Behavior (3)
ETFS 3103L - Fire Behavior Lab (1)
ETFS 3123 - Industrial Hazards and Electricity (3)
ETFS 3124 - Risk Management (3)
ETFS 3141 - Fire Safety in Constructed Facilities (3)
ETFS 3144 - Active Fire Protection (3)

ETFS 3695 - Fire Safety Prof. Development Seminar (1)
ETFS 4123 - Community Threat Assessment and Mitigation (3)
ETFS 4272 - Fire and Safety Capstone (3)
ETFS 4280 - Wildland Fire in America (3)
ETFS 4323 - Advanced Fire Service Administration (3)
ETFS 4901 - Fire Safety Research & Data Analysis (3)
ETGR 2230 - Occupational Safety (3)
ETGR 4301 - Environmental Pollution Control (3)
PSYC 2320 - Introduction to Industrial/Organizational Psychology (3)

**Restricted Elective Courses (9 credit hours)**
Select three 2000, 3000- or 4000-level courses within the Department of Engineering Technology and Construction Management with a minimum of 9 credit hours that are not already required for the major. *Select from the following:*

CMET 2105 - Plan Reading (2)
CMET 2105L - Plan Reading Lab (1)
CMET 2175 - Survey of Structures (3)
CMET 2221 - Construction Means and Methods (3)
ENGR 2800 - College of Engineering Ambassadors' Leadership Development (1 to 3)
ENGR 3095 - Leadership Academy (0)
ENGR 3790 - Engineering Honors Seminar I (1)
ENGR 3791 - Engineering Honors Seminar II (1)
ETCE 1222 - Construction Materials (3)
ETCE 2163L - Construction Materials and Structures Lab (1)
ETCE 3163 - Structural Analysis and Design I (3)
ETCE 3163L - Structures and Materials Laboratory (1)
ETCE 3242 - Hydraulics and Hydrology (3)
ETCE 3242L - Hydraulics Laboratory (1)
ETCE 3264 - Structural Analysis (3)
ETCE 3271 - Building Systems (3)
ETCE 3271L - Building Systems Laboratory (1)
ETCE 4266 - Reinforced Concrete Design (3)
ETEM 2101 - Circuit Fundamentals (3)
ETEM 2161 - Foundations of Mechanics (3)
ETEM 2171 - Algorithms and Programming (3)
ETEM 2271 - Digital Fundamentals (3)
ETEM 3131 - Electromechanical Devices (3)
ETFS 3400 - Fire Safety/Occupational Safety Practicum (1 to 4)
ETFS 3621 - Technology and Innovation in the Fire Service (3)
ETFS 3800 - Independent Study (1 to 3)
ETFS 4123 - Community Threat Assessment and Mitigation (3)
ETFS 4126 - Case Studies in Fire Forensics (3)
ETFS 4132 - Fireground Hydraulics (3)
ETFS 4283 - Fire Modeling (3)
ETFS 4285 - Fatalities in Wildland Fires (3)
ETGR 2101 - Applied Mechanics I (3)
ETGR 2102 - Applied Mechanics II (3)
ETGR 2106 - Electronic Circuits and Devices (3)
ETGR 3222 - Engineering Economics (3)
ETGR 4302 - Industrial Hygiene (3)
ETGR 4303 - Applied Ergonomics and Human Factors (3)
ETGR 4305 - System Safety Design and Management (3)
ETME 3113 - Dynamics (3)
ETME 3143 - Thermodynamics (3)
MEET 3250 - Fluid Mechanics (3)
MEET 3251 - Principles of Thermal Engineering (3)
MEET 3301 - Strength of Materials (3)
MEET 3301L - Stress Analysis Laboratory (1)
ETME 4244 - Applied Heat Transfer (3)

*Note: Courses withing the Department of Engineering Technology and Construction Management utilized for electives require a grade of C or better.*

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 credit hours

## Progression Requirements
After completing the Common First Year Curriculum (CFY) courses, students will decide on their engineering major for their second through fourth years, which may be the major they initially indicated or any other engineering major. Students must meet the following requirements in order to register for major courses:

**Engineering Majors**
Engineering majors must complete all of the requirements below before enrolling in W.S. Lee College of Engineering sophomore-year engineering courses.
- Pass all courses within two attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1242, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.5 cumulative GPA upon completion of the Common First Year Curriculum courses (2.80 for Mechanical Engineering majors)

**Engineering Technology and Construction Management Majors**
**Civil Engineering Technology**
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Electromechanical Engineering Technology**
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241 with grade of C or above and PHYS 2101 and PHYS 2101L
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Mechanical Engineering Technology**

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.2 cumulative GPA upon completion of the Common First Year Courses

**Construction Management**
- Complete CMET 1400, ETCE 1222, ETCE 1211L, and MATH 1103
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Fire & Safety)**
- Complete ETFS 1152, ETFS 1201, ETFS 1220, ETFS 1244, and MATH 1100
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Occupational Safety)**
- Complete BIOL 1110, ETFS 1201, ETFS 1220, ETGR 2230, MATH 1103, PSYC 1101 and STAT 1220
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

## Special Policies or Requirements

Acceptance of a completed AAS degree indicates the acceptance of up to 64 credit hours toward the Bachelor of Science in Engineering Technology degree program only. These hours may not be valid toward other degree programs at UNC Charlotte.

**Residence Requirements**

A student must earn the last 30 credit hours toward the BSET degree and the last 12 credit hours in the major at UNC Charlotte to satisfy residence requirements.

**Experiential Learning Requirements**

All students must complete an experiential learning course. Experiential courses are practice-oriented courses such as cooperative education, internships, Senior design projects, or undergraduate research.

Internships, or 49erships, involve paid or unpaid work in a career-related position for professional experience. A minimum of 80 work hours and 5 weeks for one semester is required to complete the program. Fall and Spring 49erships are part-time. Summer 49erships may be full- or part-time. Full-time students who are in good University standing, have completed 30 credit hours, and have a 2.00 minimum cumulative GPA are eligible. Internships do not offer academic credit, but are noted on the student's transcript; students pay a course registration fee. Approval for enrollment must be arranged before the student begins a work experience. Students may begin this program during their Sophomore year. Transfer students must complete 12 credit hours at UNC Charlotte before applying to the program. For more information, contact the College of Engineering Office of Student Development and Success or the University Career Center.

# BSET in Fire and Safety Engineering Technology *with Concentration in Occupational Safety*

Occupational safety is a career path where professionals recognize, evaluate, and control workplace hazards, which exist in almost every industry. Building on a strong background in the life and physical sciences, students learn about fire prevention/protection, environmental pollution control, industrial hazards, industrial hygiene (industrial health), and ergonomics in this multi-disciplinary program. An experiential capstone experience (internship, co-op, or a supervised directed project) is required. Students completing the requirements identified for this concentration will receive a special designation on their transcripts showing they have completed the Occupational Safety concentration.

## Admission Requirements

Students for this degree may enter degree programs in the Department of Engineering Technology and Construction Management as First-Year students or as transfer students.

**First-Year Students**

Applicants entering as First-Year students must meet the general University admission requirements. See University Admission Requirements.

**Transfers**

See University Admission Requirements.

Transfer admission into the department occurs in one of two situations:

1. Transfer applicants who do not have the Associate in Applied Science (AAS) degree or its equivalent must meet general University admission requirements.
2. Transfer applicants with an Associate of Applied Science (AAS) degree must:
   - Hold an Associate of Applied Science (AAS) degree in a field appropriate to the option they plan to enter. Acceptable AAS degrees may include: Fire Protection, Fire Science, or similar title with curriculum acceptable to the department. A minimum GPA of 2.50 (out of 4.00) in the AAS degree is required.
   - Have completed satisfactorily the prerequisite background courses for the option they plan to enter. Missing background courses may be taken at UNC Charlotte.

**Currently Enrolled Students**

Current UNC Charlotte students who wish to change or declare their major to Occupational Safety must first satisfy the following requirements in order to be considered eligible for admission:

- Complete MATH 1103 or higher with a grade of C or better.
- Achieve a GPA between 2.2 - 4.0.
- Pass all currently attempted required courses within three attempts including withdrawing from a course with a grade of W.
- Students currently enrolled in a required course for a second time must wait until grades are posted before declaring an ETCM major. A student will not be admitted to the major unless the course is passed within three attempts.
- Complete at least one of the following Occupational Safety courses in the curriculum ETGR 2230, ETFS 2230 or ETFS 3123. Other courses may be approved by the Program Director and the Academic Advisor on a case-by-case basis.

Upon satisfying all of the above requirements, students may request admission by submitting the Change of Major form. Completion of the minimum requirements does not guarantee acceptance into a program.

## Course Requirements

Course requirements correspond to the mode of admission for each student as outlined hereafter. All ETFS courses require a grade of C or better. Other courses required may also have this requirement since they may serve as a prerequisite.

- **Entering First-Year Students**: Students admitted as First-Year students complete the appropriate four-year curriculum for the program into which they were admitted.
- **Transfer students not holding an appropriate AAS degree:** Transfer students not holding an appropriate AAS degree must complete the remaining coursework outlined for the respective four-year curriculum into which they were admitted after evaluation and application of any transfer credit.
- **Transfer students holding an appropriate AAS degree:** Transfer students with an appropriate Associate of Applied Science (AAS) degree as defined previously under Admission Requirements may begin the program in the Junior year with up to 64 transfer credit hours awarded. Prerequisites for students holding an AAS degree from a community or technical college are listed below.

## Prerequisite Courses for AAS Transfers

Students transferring with an AAS degree must have satisfactorily completed the following subjects in their two-year program:

- English Composition, Technical Writing, and/or Public Speaking (3 credit hours)
- Precalculus (3 credit hours)
- Physics with lab (4 credit hours)
- Chemistry with Lab (4 credit hours)
- Principles of Biology (3 credit hours)
- Human Anatomy and Physiology (3 credit hours)
- Earth Science with lab (4 credit hours)
- Environmental Science (3 credit hours)
- Intro to Psychology (3 credit hours)
- Technical Courses in Major Area as listed below (up to 30 credit hours)
  - Introduction to Fire Protection and Prevention
  - Introduction to Fire Behavior
  - Hazardous Materials
  - Occupational Safety
  - Construction Safety
  - Computer-Aided Drafting
  - Electronic Circuits/DC Circuits
  - Fire and Municipal Financial Ops
  - Industrial/Organizational Psychology
  - Statistics

## Remediation of Academic Entrance Requirements for AAS Transfer Students

In addition to University and College of Engineering requirements, an AAS transfer student who is admitted to any BSET program without meeting ALL published admission requirements is expected to remove all admission deficiencies within one year. Violators are subject to discontinuance and enrollment in Senior-level coursework is prohibited until all deficiencies are removed.

## Degree Requirements (4-Year Program)

The BSET in Fire and Safety Engineering Technology with a Concentration in Occupational Safety program consists of 120 credit hours.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. For example, 13 credit hours of math/science coursework counts as both general education under the major's Math/Science requirements. Please see your advisor for information.

**Mathematics and Science Foundation Courses (30 credit hours)**
Foundational Math/Science coursework prepares students for coursework in the major and must be completed before taking upper level courses.

BIOL 1110 - Principles of Biology I (3)

BIOL 2273 - Human Anatomy and Physiology (3)
or EXER 2168 - Human Anatomy and Physiology for the Health Professions (3)

CHEM 1251 - General Chemistry I (3)
CHEM 1251L - General Chemistry I Laboratory (1)
ESCI 1101 - Earth Sciences-Geography (3)
ESCI 1101L - Earth Sciences-Geography Laboratory (1)
ESCI 2222 - Environmental Science (3)
MATH 1103 - Precalculus Mathematics for Science and Engineering (3 to 5)
PHYS 1101 - Introductory Physics I (3)
PHYS 1101L - Introductory Physics I Laboratory (1)
PSYC 1101 - General Psychology (3)
STAT 122x - Statistics (Choice of STAT 1220, STAT 1221, or STAT 1222)

**Engineering/Engineering Technology Requirements (9 credit hours)**
The following courses are college/department requirements:

ETEM 2101 - Circuit Fundamentals (3)
ETGR 1103 - Technical Drawing I (3)

ETGR 3222 - Engineering Economics (3)

**Occupational Safety and Fire Safety Courses (51 credit hours)**
The following courses primarily represent the occupational safety field, with supporting coursework from fire safety, organizational psychology, and risk management.

CMET 1680 - Professional Development I: Construction Safety (1)
ETFS 1201 - Introduction to Fire Safety and Occupational Safety Engineering Technology (2)
ETFS 2124 - Introduction to Fire Prevention (3)
ETFS 2230 - Hazardous Materials (3)
ETFS 3103 - Fire Behavior (3)
ETFS 3103L - Fire Behavior Lab (1)
ETFS 3123 - Industrial Hazards and Electricity (3)
ETFS 3141 - Fire Safety in Constructed Facilities (3)
ETFS 3144 - Active Fire Protection (3)
ETFS 3150 - Adult Learning Theory in Safety (1)
ETFS 3695 - Fire Safety Prof. Development Seminar (1)
ETFS 4123 - Community Threat Assessment and Mitigation (3)
ETFS 4272 - Fire and Safety Capstone (3)
ETGR 2230 - Occupational Safety (3)
ETGR 4301 - Environmental Pollution Control (3)
ETGR 4302 - Industrial Hygiene (3)
ETGR 4303 - Applied Ergonomics and Human Factors (3)
ETGR 4305 - System Safety Design and Management (3)
FINN 3271 - Principles of Risk Management and Insurance (3)
PSYC 2320 - Introduction to Industrial/Organizational Psychology (3)

**Directed Electives – Environmental Focus (3 credit hours)**
*Choose 3 credit hours from the following environmentally-focused courses:*
CEGR 3141 - Introduction to Environmental Engineering (3)
CEGR 3155 - Environmental Laboratory (2)
ESCI 3170 - Environmental Quality Management (3)
ESCI 3205 - Water Resources (3)
ESCI 3220 - Air Quality (3)
ETCE 2410 - Introduction to Environmental Engineering Technology (3)
GEOG 3180 - Hazards and Disasters (3)
GEOG 3215 - Environmental Planning (3)
GEOG 4110 - GIS for Non-Majors (3)

**Directed Electives – Social Science/Health Focus (3 credit hours)**
*Choose 3 credit hours from the list of courses below from psychosocial and health sciences:*
EXER 2290 - Emergency Medical Response (3) *
HLTH 2102 - Foundations of Public Health (3)
PSYC 2160 - Introduction to Health Psychology (3)
PSYC 3001 - Topics in Psychology (1 to 3)
PSYC 3125 - Older Worker and Retirement (3)
SOCY 4112 - Sociology of Work (3)
SOCY 4168 - Sociology of Mental Health and Illness (3)
SPAN 1101 - Elementary Spanish I (3)

*Note: EXER 2290 may only be available to non-majors during the Summer term or as seats for non-majors become available.

**Restricted Elective Courses (6 credit hours)**
Select two 3000- or 4000-level courses from the ETFS Program or ETCM Department with a minimum of 6 credit hours that are not already required for the major. *Select from the following:*

CMET 3xxx or 4xxx
ETCE 3xxx or 4xxx
ETEM 3xxx or 4xxx
ETFS 3xxx or 4xxx
ETFS 3400 - Fire Safety/Occupational Safety Practicum (1 to 4)
ETFS 3800 - Independent Study (1 to 3)
ETFS 4243 - Research Methodology for Fire Safety and Occupational Safety (3)
ETFS 4280 - Wildland Fire in America (3)
ETFS 4285 - Fatalities in Wildland Fires (3)
ETFS 4901 - Fire Safety Research & Data Analysis (3)
ETGR 3xxx or 4xxx
ETME 3xxx or 4xxx
Additional courses from Environmental or Social Science Directed Electives above or Elective approved by advisor

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

---

## Degree Requirements - Other
The BSET in Fire and Safety Engineering Technology with a Concentration in Occupational Safety program consists of 120 credit hours.

## Admission Requirements
**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

**AAS Degree (60 credit hours)**
A.A.S. transfer students from approved programs may receive up to 60 credit hours for the A.A.S. degree; thus, A.A.S. students need only to complete the upper-division portion of the courses listed below and remediate any entrance deficiencies noted upon matriculation.

**General Education Courses**
For details on required courses, refer to the General Education Program.

**Mathematics, Science, and Engineering Foundation Courses**
If not taken as part of the AAS degree, transfer students may need to take one or more of the following courses, which act as pre-requisite courses for upper level courses and provide a general math/science background.

BIOL 1110 - Principles of Biology I (3)
BIOL 2273 - Human Anatomy and Physiology (3)
or EXER 2168 - Human Anatomy and Physiology for the Health Professions (3)

CHEM 1251 - General Chemistry I (3)
CHEM 1251L - General Chemistry I Laboratory (1)
ESCI 1101 - Earth Sciences-Geography (3)
ESCI 1101L - Earth Sciences-Geography Laboratory (1)
ESCI 2222 - Environmental Science (3)
ETEM 2101 - Circuit Fundamentals (3)
ETFS 2124 - Introduction to Fire Prevention (3)
ETFS 2230 - Hazardous Materials (3)
ETGR 1103 - Technical Drawing I (3)
MATH 1103 - Precalculus Mathematics for Science and Engineering (3 to 5)
PHYS 1101 - Introductory Physics I (3)
PHYS 1101L - Introductory Physics I Laboratory (1)
PSYC 1101 - General Psychology (3)
STAT 122x - Statistics (Choice of STAT 1220, STAT 1221, or STAT 1222)

**Major Courses in Occupational Safety (48 credit hours)**
The following courses primarily represent the occupational safety field, with supporting coursework from fire safety, organizational psychology, and risk management.

CMET 1680 - Professional Development I: Construction Safety (1)
ETFS 3103 - Fire Behavior (3)
ETFS 3103L - Fire Behavior Lab (1)
ETFS 3123 - Industrial Hazards and Electricity (3)
ETFS 3144 - Active Fire Protection (3)
ETFS 3150 - Adult Learning Theory in Safety (1)
ETFS 4123 - Community Threat Assessment and Mitigation (3)
ETFS 4272 - Fire and Safety Capstone (3)
ETGR 3222 - Engineering Economics (3)
ETGR 4301 - Environmental Pollution Control (3)
ETGR 4302 - Industrial Hygiene (3)
ETGR 4303 - Applied Ergonomics and Human Factors (3)
ETGR 4305 - System Safety Design and Management (3)
FINN 3271 - Principles of Risk Management and Insurance (3)
ETFS 1201 - Introduction to Fire Safety and Occupational Safety Engineering Technology (2)
ETFS 3141 - Fire Safety in Constructed Facilities (3)
ETFS 3695 - Fire Safety Prof. Development Seminar (1)
ETGR 2230 - Occupational Safety (3)
PSYC 2320 - Introduction to Industrial/Organizational Psychology (3)

**Directed Electives – Environmental Focus (3 credit hours)**
*Choose 3 credit hours from the following environmentally-focused courses:*

CEGR 3141 - Introduction to Environmental Engineering (3)
CEGR 3155 - Environmental Laboratory (2)
ESCI 3170 - Environmental Quality Management (3)
ESCI 3205 - Water Resources (3)
ESCI 3220 - Air Quality (3)
ETCE 2410 - Introduction to Environmental Engineering Technology (3)
GEOG 3180 - Hazards and Disasters (3)
GEOG 3215 - Environmental Planning (3)
GEOG 4110 - GIS for Non-Majors (3)

**Directed Electives – Social Science/Health Focus (3 credit hours)**
*Choose 3 credit hours from the list of courses below from psychosocial and health sciences:*

EXER 2290 - Emergency Medical Response (3) *
HLTH 2102 - Foundations of Public Health (3)
PSYC 2160 - Introduction to Health Psychology (3)
PSYC 3001 - Topics in Psychology (1 to 3)
PSYC 3125 - Older Worker and Retirement (3)
SOCY 4112 - Sociology of Work (3)
SOCY 4168 - Sociology of Mental Health and Illness (3)
SPAN 1101 - Elementary Spanish I (3)

*Note: EXER 2290 may only be available to non-majors during the Summer term or as seats for non-majors become available.

**Restricted Elective Courses (6 credit hours)**
Select two 3000- or 4000-level courses from the ETCM Department with a minimum of 6 credit hours that are not already required for the major. *Select from the following:*

CMET 3xxx or 4xxx
ETCE 3xxx or 4xxx
ETEM 3xxx or 4xxx
ETFS 3xxx or 4xxx
ETFS 3400 - Fire Safety/Occupational Safety Practicum (1 to 4)
ETFS 3800 - Independent Study (1 to 3)
ETFS 4243 - Research Methodology for Fire Safety and Occupational Safety (3)
ETFS 4280 - Wildland Fire in America (3)
ETFS 4285 - Fatalities in Wildland Fires (3)
ETFS 4901 - Fire Safety Research & Data Analysis (3)
ETGR 3xxx or 4xxx
ETME 3xxx or 4xxx

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements

After completing the Common First Year Curriculum (CFY) courses, students will decide on their engineering major for their second through fourth years, which may be the major they initially indicated or any other engineering major. Students must meet the following requirements in order to register for major courses:

**Engineering Majors**
Engineering majors must complete all of the requirements below before enrolling in W.S. Lee College of Engineering sophomore-year engineering courses.

- Pass all courses within two attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1242, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.5 cumulative GPA upon completion of the Common First Year Curriculum courses (2.80 for Mechanical Engineering majors)

**Engineering Technology and Construction Management Majors**
**Civil Engineering Technology**
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Electromechanical Engineering Technology**
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241 with grade of C or above and PHYS 2101 and PHYS 2101L
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Mechanical Engineering Technology**
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.2 cumulative GPA upon completion of the Common First Year Courses

**Construction Management**
- Complete CMET 1400, ETCE 1222, ETCE 1211L, and MATH 1103
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Fire & Safety)**
- Complete ETFS 1152, ETFS 1201, ETFS 1220, ETFS 1244, and MATH 1100
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Occupational Safety)**
- Complete BIOL 1110, ETFS 1201, ETFS 1220, ETGR 2230, MATH 1103, PSYC 1101 and STAT 1220
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

## Special Policies or Requirements

Acceptance of a completed AAS degree indicates the acceptance of up to 64 credit hours toward the Bachelor of Science in Engineering Technology degree program only. These hours may not be valid toward other degree programs at UNC Charlotte.

**Residence Requirements**
A student must earn the last 30 credit hours toward the BSET degree and the last 12 credit hours in the major at UNC Charlotte to satisfy residence requirements.

**Experiential Learning Requirements**
All students must complete an experiential learning course. Experiential courses are practice-oriented courses such as cooperative education, internships, Senior design projects, or undergraduate research.

Internships, or 49erships, involve paid or unpaid work in a career-related position for professional experience. A minimum of 80 work hours and 5 weeks for one semester is required to complete the program. Fall and Spring 49erships are part-time. Summer 49erships may be full- or part-time. Full-time students who are in good University standing, have completed 30 credit hours, and have a 2.00 minimum cumulative GPA are eligible. Internships do not offer academic credit, but are noted on the student's transcript; students pay a course registration fee. Approval for enrollment must be arranged before the student begins a work experience. Students may begin this program during their Sophomore year. Transfer students must complete 12 credit hours at UNC Charlotte before applying to the program. For more information, contact the College of Engineering Office of Student Development and Success or the University Career Center.

# Minor in Construction Management

The Construction Management minor is designed for students interested in a Construction Industry profession with an academic background in Architecture, Business, or other Bachelor of Science major. This minor emphasizes the technical and managerial aspects of Construction Management so that students will have sufficient technical skills to function in entry-level construction industry roles. The minor is beneficial to majors in Architecture, Business, Geology, Geography, or other Bachelor of Science majors by enabling graduates to seek employment in the Architectural, Engineering, and Construction (AEC) Industry.
All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

## Admission Requirements

To be accepted into the Construction Management Minor, a student must present a minimum 2.0 GPA overall and Junior standing.

## Minor Requirements

**Construction Management (18 credit hours)**
*Minor candidates must complete the following courses:*
ETCE 1104 - Civil/Construction CAD Applications (3)
CMET 2105 - Plan Reading (2)
CMET 2105L - Plan Reading Lab (1)
CMET 2135 - Building Information Modeling (BIM) (3)
CMET 2221 - Construction Means and Methods (3)
CMET 3123 - Cost Estimating (3)

CMET 3224 - Construction Project Administration (3)

**Restricted Elective (3 credit hours)**
*Students must choose (1) one from the following:*
CMET 3124 - Cost Estimating II (3)
CMET 3150 - Construction Law and Contracts (3)
CMET 4126 - Project Scheduling and Control (3)
CMET 4135 - Construction Technologies and Innovation (3)

### Minor Total = 21 credit hours

### Progression Requirements
Maintain an overall GPA of 2.00 in the University

## Minor in Fire Science
The Fire Science Minor is designed for students seeking an understanding in fire, its benefits and drawbacks . The minor emphasizes the technical aspects of fire, designed to prepare students for increasingly responsible roles in workplace safety and management. The program provides comprehensive classes dealing with fire behavior, investigation and hazardous materials.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
See University of North Carolina at Charlotte Admission Requirements

While not required for admission, please note that some upper level 3000 or 4000 courses may require prerequisites courses that include PHYS 1101 (3) and/or CHEM 12XX – Chemistry (3)

### Required Core Courses (12 Credit Hours)
*Four Courses ( 12 credit hours) are required,*
ETFS 1244 - Water-Based Fire Suppression (3)
ETFS 2126 - Fire Investigation and Forensics (3)
ETFS 2230 - Hazardous Materials (3)
ETFS 3103 - Fire Behavior (3)

### Elective Courses ( 3 Credit Hours)
Select one of the following for 3 elective credit hours. Students are encouraged to take electives outside of their major department and college to gain a broader perspective. Please note that some courses may have prerequisites or other requirements.

CMET 1400 - Introduction to Construction Management (3)
ESCI 3101 - Global Environmental Change (3)
ETCE 1222 - Construction Materials (3)
ETCE 3271 - Building Systems (3)
ETEM 2101 - Circuit Fundamentals (3)
ETFS 2230L - Hazardous Materials Lab (1)
ETFS 3103L - Fire Behavior Lab (1)
ETFS 3123 - Industrial Hazards and Electricity (3)
ETGR 2106 - Electronic Circuits and Devices (3)
ETGR 2230 - Occupational Safety (3)
ETGR 4301 - Environmental Pollution Control (3)
MEET 2201 - Applied Engineering Materials (3)
GEOG 3180 - Hazards and Disasters (3)

### Minor Total = 15 Credit Hours

### Progression Requirements
To qualify for the Minor in Fire Science upon Graduation, students must have earned a GPA of at least 2.0 in courses applied to the minor. Students are required to have a grade of C or above in the required Core Courses. Students are allowed to attempt * these Core Courses in which they earned grades lower than a C no more than two times.

** Each of the following is considered an attempt: Withdrawing from the course after the drop deadline (may be appealed); grade replacement; Pass/No Credit; Incompletes that convert to grades of F; and grades of A,B,C,D,or F.*

## Minor in Occupational Safety
The Occupational Safety minor is designed for students interested in the safety and environmental health professions. This minor emphasizes the technical and managerial aspects of occupational safety and health so that students will have sufficient technical skills to function in entry-level Workplace Safety/EHS roles. The minor is beneficial to majors in biology, chemistry, engineering, human resources management, organizational psychology, and public health by enabling graduates to work in safety-related roles in their professional careers.

All program-level Admissions and Progression Requirements are in addition to the University of North Carolina at Charlotte Admission Requirements.

### Admission Requirements
See University of North Carolina at Charlotte Admission Requirements.

To declare a Minor in Occupational Safety, students must be at sophomore standing or higher.

While not required for admission, please note that 4000-level courses taken to complete the minor may have pre-requisite courses that include PHYS 1101 - Introductory Physics I (3) and/or CHEM 12XX - Chemistry (3).

### Degree Requirements
**Required Core Courses (12 credit hours)**
Four courses (12 credit hours) are required.
ETFS 3123 - Industrial Hazards and Electricity (3)
ETGR 2230 - Occupational Safety (3)
ETGR 4302 - Industrial Hygiene (3)
ETGR 4303 - Applied Ergonomics and Human Factors (3)

**Elective Courses (3 credit hours)**
Select one of the following for 3 elective credit hours. Students are encouraged to take electives outside their major department and college to gain a broader perspective. Please note that some courses may have prerequisites or other requirements.

CEGR 3141 - Introduction to Environmental Engineering (3)
ESCI 3170 - Environmental Quality Management (3)
ETCE 2410 - Introduction to Environmental Engineering Technology (3)

ETFS 2230 - Hazardous Materials (3)
ETFS 3103 - Fire Behavior (3)
ETFS 3400 - Fire Safety/Occupational Safety Practicum (1 to 4)
ETFS 3800 - Independent Study (1 to 3)
ETGR 4301 - Environmental Pollution Control (3)
ETGR 4305 - System Safety Design and Management (3)
GEOG 3180 - Hazards and Disasters (3)
HLTH 2102 - Foundations of Public Health (3)
PSYC 2320 - Introduction to Industrial/Organizational Psychology (3)
PSYC 3121 - Organizational Psychology (3)
SOCY 4112 - Sociology of Work (3)
SOCY 4168 - Sociology of Mental Health and Illness (3)

### Minor Total = 15 Credit Hours

### Progression Requirements
To qualify for the Minor in Occupational Safety upon graduation, students must have earned a GPA of at least 2.0 in courses applied to the minor. Students are required to have a grade of C or above in Required Core Courses. Students are allowed to attempt these Core Courses in which they earned grades lower than a C no more than two times.*

** Each of the following is considered an attempt: Withdrawing from the course after the drop deadline (may be appealed); grade replacement; audits; Pass/No Credit; Incompletes that convert to grades of F; and grades of A, B, C, D, or F.*

## Early Entry: Master of Science in Construction and Facilities Engineering
Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

All program-level Admissions and Progression Requirements are in addition to the University of North Carolina at Charlotte Admission Requirements.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.20 overall undergraduate GPA
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

### Progression Requirements
- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.00 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree.

### Special Policies or Requirements
Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at: gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

## Early Entry: Master of Science in Fire Protection and Safety Management
Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.20 overall undergraduate GPA
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

### Progression Requirements
- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.00 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree.

### Special Policies or Requirements
Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# Department of Civil and Environmental Engineering

**cee.charlotte.edu**

## Undergraduate Programs

- **B.S. in Civil Engineering**
  - **Energy Infrastructure**
  - **Land Development Engineering**
- **B.S. in Environmental Engineering**
- **Early Entry: M.S. in Civil Engineering**

The Department of Civil and Environmental Engineering offers exceptional educational and research opportunities for students. Undergraduate civil engineering students receive comprehensive exposure to technical subjects in all four disciplines of civil engineering: Environmental/Water Resources, Geotechnical, Structures, and Transportation, which are integral parts of the mandatory curriculum.

While the B.S.C.E. curriculum is designed to provide undergraduate students with a broad Civil and Environmental Engineering educational experience, undergraduate students may also select an optional concentration in two select areas:

- Energy Infrastructure
- Land Development Engineering

The Civil Engineering field encompasses various challenges, including:

1. Analysis, design, construction, and monitoring of foundation systems, buildings, bridges, dams, and other structures.
2. Transportation systems, such as highways, mass transit, airports, railroads, pipelines, canals, and harbor facilities.
3. Land development, and urban and regional planning.
4. Power infrastructure design and testing.
5. Environmental solutions, addressing air pollution, groundwater pollution, water pollution, noise pollution, ecological effects.
6. Managing water resources for urban use, industrial applications, and land reclamation.
7. Developing systems for water transmission and river control.
8. Establishing water quality control systems for purification and waste treatment.

Undergraduate Environmental Engineering (B.S.) students undergo coursework that integrates core Environmental Engineering subjects with ongoing design experience throughout the curriculum. This approach offers students opportunities to assess, analyze, and solve real-world and locally relevant problems related to contamination of soils, water, and the atmosphere. The Environmental Engineering field

encompasses various challenges, including:

1. Environmental solutions, addressing air pollution, groundwater pollution, water pollution, noise pollution, ecological effects.
2. Managing water resources for urban use, industrial applications, and land reclamation.
3. Developing systems for water transmission and river control.
4. Establishing water quality control systems for purification and waste treatment

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

## Advanced Degree Programs

Civil and Environmental Engineering students can pursue the following advanced degrees:

- Master of Science in Civil Engineering (M.S.C.E.)
- Master of Science in Engineering (M.S.E.)
- Doctor of Philosophy (Ph.D.) in Civil Engineering
- Doctor of Philosophy (Ph.D.) in Infrastructure and Environmental Systems (INES)

Graduate students typically engage in coursework and/or research within a specific technical area.

Students should consider the graduate study options offered by the Department of Civil and Environmental Engineering as they plan their undergraduate program of study. While qualified students can begin working on a Master's degree at the completion of their B.S.C.E. or Environmental Engineering B.S., students also have two options for an accelerated Master's degree:

1) Incoming First-Year students may elect to enroll in the 5-year program to obtain both a B.S. and an M.S. degree upon graduation.
2) An early-entry M.S. degree option is available to students who meet the 3.20 GPA criterion. Qualified students who elect this option apply to the Graduate School as an undergraduate student, and are permitted to double-count 9 credit hours of graduate coursework towards upper-level undergraduate electives. For additional information about the graduate programs, see the *UNC Charlotte Graduate Catalog*.

## Civil Engineering (B.S.C.E.) Program Educational Objectives

The Bachelor of Science in Civil Engineering (BSCE) Program Educational Objectives (PEO) listed below describe the program's objectives for BSCE graduates three to five years after they have completed the program.

1) BSCE Program graduates will be progressing successfully in their career and exhibiting leadership qualities.
2) BSCE Program graduates will be demonstrating integrity and ethical behavior in all professional activities. Graduates will further demonstrate professionalism by nearing/obtaining professional licensure as appropriate for their chosen career, and by actively participating in professional activities.
3) BSCE Program graduates will be demonstrating their technical ability to solve problems and/or manage engineering solutions from conception through implementation.
4) BSCE Program graduates will be maintaining and expanding professional competencies and mastering emerging technologies by engaging in lifelong learning that includes graduate studies and professional education.
5) BSCE Program graduates will strive to incorporate global, societal, economic, and environmental impacts in their professional work, consistent with the principles of sustainable development.
6) BSCE graduates will be committed to continued engagement and support of the Civil and Environmental Engineering Department and seek opportunities to mentor future engineers.
7) BSCE Program graduates will be engaging and collaborating with the communities in which they live and work.

## Accreditation

The undergraduate Civil Engineering Program within the Department of Civil and Environmental Engineering at The University of North Carolina at Charlotte is accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org.

## Student Outcomes

The following student outcomes for the BSCE program support the program educational objectives. Attainment of these outcomes prepares graduates to enter the professional practice of engineering. Student outcomes include:

1) An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics;
2) An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors;
3) An ability to communicate effectively with a range of audiences;
4) An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts;
5) An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives;
6) An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions; and
7) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

### ASCE Program Criteria

ABET requires that accredited programs meet program-specific criteria established by the American Society of Civil Engineers (ASCE). Specifically, the Civil Engineering program at UNC Charlotte must meet ASCE program-specific criteria related to: 1) Curriculum and 2) Faculty as outlined below:

1) **Curriculum:** The curriculum must prepare graduates to apply knowledge of mathematics through differential equations, calculus-based physics, chemistry, and at least one additional area of basic science; apply probability and statistics to address uncertainty; analyze and solve problems in at least four technical areas

appropriate to civil engineering; conduct experiments in at least two technical areas of civil engineering and analyze and interpret the resulting data; design a system, component, or process in at least two civil engineering contexts; include principles of sustainability in design; explain basic concepts in project management, business, public policy, and leadership; analyze issues in professional ethics; and explain the importance of professional licensure.

2) **Faculty:** The program must demonstrate that faculty teaching courses that are primarily design in content are qualified to teach the subject matter by virtue of professional licensure, or by education and design experience. The program must demonstrate that it is not critically dependent on one individual.

# Bachelor of Science in Civil Engineering (B.S.C.E.)

A Major in Civil Engineering leading to the Bachelor of Science in Civil Engineering (B.S.C.E.) degree consists of 120 credit hours.

## Accreditation

The undergraduate Environmental Engineering Program within the Department of Civil and Environmental Engineering is actively seeking accreditation, but is not currently accredited by the Engineering Accreditation Commission of ABET.

## Admission Requirements

### First-Year Students

First-year admission is competitive, based upon an overall evaluation of the high school record, with particular emphasis on advanced courses in math and science. See University Admission Requirements for a detailed description of the criteria.

First-Year students may either select a major at the time of their application or may choose to be Engineering-undeclared. All First-Year College of Engineering students will take a common set of courses called the Common First Year. Towards the end of their first year, having completed all progression requirements, students will declare or confirm their Engineering Major for the second through fourth years. This selection may be the major they initially indicated or any other engineering major for which they meet the progression requirements.

### Transfers

All transfer students will be evaluated for placement into a departmental Program or the Common First Year program based on the evaluation of their transfer credits (consistent with the North Carolina articulation agreements).

- See University Admission Requirements
- Minimum GPA: 2.50 (2.80 for Mechanical Engineering)
- Pre-Major/Prerequisite Courses:
  - Engineering Programs: Calculus I course (equivalent to MATH 1241), with a grade of C or above
  - Engineering Technology Programs: Pre-calculus course (equivalent to MATH 1103) or higher, with a grade of C or above
- Transferable Credit Hours: Minimum of 24

Transfers from an ABET-accredited engineering program who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

### Currently Enrolled Students

### Internal Change of Major

Internal change of majors within the College of Engineering must have a minimum GPA of 2.50 (2.80 for Mechanical Engineering). Students who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

### Change of Major Into a Program in the College of Engineering

First-time college students who seek eligibility for a change of major from a non-engineering major into an engineering program are required to:

- Complete the First-Year Curriculum.
- Have no more than two attempts per course, including withdrawing from a course with a grade of W.
- Achieve an overall GPA of 2.50 (2.80 for Mechanical Engineering).

### Students Seeking Eligibility for a Change of Major

- Should continue to be advised by their current advisor.
- Should focus on successfully completing courses that count towards the program of interest and not rely on grades in unrelated courses to elevate the GPA.
- Are not permitted to enroll in Sophomore engineering courses.
- May request authorization to enroll in ENGR 1300, ENGR 1301, ENGR 1302 or ENGR 1303 via a request to the College of Engineering Advising department at osds-advising@charlotte.edu.

### Transfers Seeking Eligibility for a Change of Major

Students who transfer to Charlotte into a non-engineering major and have not met the Transfer Requirements for a given engineering program are not guaranteed to be considered for a change of major. Representatives of the program of interest make decisions on a student's eligibility to pursue a change of major based on a holistic review of a student's entire academic record, including grades earned at other institutions. A record of unsuccessful attempts in courses will weigh negatively on such decisions. If transfer students are allowed to pursue eligibility for a change of major to a given program, they will be required to:

- Complete the Common First-Year Curriculum.
- Have no more than two attempts per course including withdrawing from a course with a grade of W.
- Achieve an overall GPA of 2.50 (2.80 for Mechanical Engineering).
- Complete at least 12 credits of courses at Charlotte, including at least four courses in math, science and/or engineering.

## Common First-Year Curriculum (CFY)

The College of Engineering uses a Common First-Year Curriculum (CFY) for all Engineering students in order to:

- Provide a strong academic base of foundational knowledge and skills
- Facilitate changing majors within the first year
- Support students with lower math placement and increase access to all majors
- Allow students to explore different majors before committing
- Enhance learning with innovative pedagogies and activities

### Common First-Year Courses

All new first-year students are initially advised by a central office within the W.S. Lee College of Engineering. Students must complete the following classes that are common to all majors of the college (except Construction Management and Fire and Safety Engineering Technology) in order to progress and matriculate to their major department. *All First-Year Curriculum courses require a grade of C or better.*

ENGR 1300 Exploring Engineering & Technology with Success (2)
ENGR 1301 Foundations of Math and Science for Engineering (3)
ENGR 1302 Logic and Computational Problem Solving (3)
ENGR 1303 Engineering Visualization and Graphical Communication (3)
PHYS 2101 (3)
PHYS 2101L (1)
Two MATH courses: MATH 1103* or MATH 1241* or MATH 1242* (3 each)
*See Notes 1 and 2 below*

* All students should consult their advisor to select the math courses that match their planned major.

***Note 1***
Progression into Civil Engineering, Computer Engineering, Construction Engineering, Electrical Engineering, Environmental Engineering, Mechanical Engineering, and Systems Engineering Major Courses after completing the Common First Year Curriculum requires that students also complete MATH 1241, MATH 1242, PHYS 2101, and PHYS 2101L.

***Note 2***
Progression into Civil Engineering Technology, Electromechanical Engineering Technology, and Mechanical Engineering Technology Major Courses after completing the Common First Year Curriculum requires that students complete MATH 1241, PHYS 2101, and PHYS 2101L with a C or better (except for Electromechanical Engineering Technology).

***Note 3***
Students must earn at least a 2.0 GPA in the first semester to continue into the second semester.

## Degree Requirements

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

Elective courses should be chosen to satisfy University General Education requirements, meet the objectives of a broad education consistent with the educational goals of the profession, and complement the student's overall educational plan. To avoid taking "extra" elective courses, students must select their elective courses carefully after consulting with their faculty advisor.

**First-Year Courses (21 credit hours)**
See Common First-Year Curriculum (CFY) for details.

**Foundation Courses (19 credit hours)**
***Required Foundation Courses (16 credit hours)***
CHEM 1352 - General Chemistry for Engineers (4) *
MATH 2171 - Differential Equations (3) *
MATH 2241 - Calculus III (3) *
STAT 3128 - Probability and Statistics for Engineers (3)
PHYS 2102 - Physics for Science and Engineering II (3)

*Plus one of the following:*
CHEM 1252 - General Chemistry II (3)
and CHEM 1252L - General Chemistry II Lab (1)
PHYS 2102 - Physics for Science and Engineering II (3)
and PHYS 2102L - Physics for Science and Engineering II Lab (1)

***Elective Foundation Courses (3 credit hours)***
*Select one of the following:*
BIOL 1110 - Principles of Biology I (3)
BIOL 1115 - Principles of Biology II (3)
BIOL 2120 - General Biology I (3)
BIOL 2259 - Fundamentals of Microbiology (3)
BIOL 2273 - Human Anatomy and Physiology (3)
BIOL 3111 - Cell Biology (3)
BIOL 4250 - Microbiology (3)
ESCI 1101 - Earth Sciences-Geography (3)
GEOL 1200 - Physical Geology (3)
GEOL 2100 - The Violent Earth (3)
GEOL 3190 - Environmental Geology (3)

** A grade of C or above is required.*

**Major Courses (48 credit hours)**
CEGR 2101 - Civil Engineering Drawing (2)
CEGR 2102 - Engineering Economic Analysis (3) *
CEGR 2154 - Design Project Lab (2) *
CEGR 3111 - Construction Engineering (3) *
CEGR 3122 - Structural Analysis (3) *
CEGR 3141 - Introduction to Environmental Engineering (3) *
CEGR 3143 - Hydraulics and Hydrology (3) *
CEGR 3153 - Transportation Laboratory (2)
CEGR 3155 - Environmental Laboratory (2)
CEGR 3161 - Transportation Engineering I (3) *
CEGR 3201 - Systems and Design (3)
CEGR 3256 - Structural Materials Laboratory (1)
CEGR 3259 - Geotechnical Laboratory (1)
CEGR 3278 - Geotechnical Engineering (3) *
ENGR 3295 - Multidisciplinary Professional Development (1)
MEGR 2141 - Engineering Mechanics I (3) *
MEGR 2144 - Introduction to Solid Mechanics (3) *

**A grade of C or above is required.*

**Elective Courses (21 credit hours)**
***Civil Engineering Design Elective Courses (6 credit hours)***
*Select one course in at least two technical areas (Options):*

*Option 1: Environmental Engineering*
CEGR 4142 - Water Treatment Engineering (3)*
CEGR 4147 - Stormwater Management (3)*
CEGR 4242 - Wastewater Treatment Design (3)*

*Option 2: Geotechnical Engineering*
CEGR 4264 - Landfill Design (3)*
CEGR 4270 - Earth Pressures and Retaining Structures (3)
CEGR 4278 - Geotechnical Engineering II (3)*

*Option 3: Structural Engineering*
CEGR 3221 - Structural Steel Design I (3)*
CEGR 3225 - Reinforced Concrete Design I (3)*
CEGR 4122 - Power Plant Design (3)

*Option 4: Transportation Engineering*
CEGR 4161 - Advanced Traffic Engineering (3)*
CEGR 4162 - Transportation Planning (3)*
CEGR 4185 - Geometric Design of Highways (3)*
CEGR 4262 - Traffic Engineering (3)*

**A grade of C or above is required.*

***Mechanical/Electrical Engineering Elective Course (3 credit hours)***
*Select one of the following:*
ECGR 2161 - Basic Electrical Engineering I (3)
MEGR 3111 - Thermodynamics I (3)
MEGR 3121 - Dynamics Systems I (3)

***Civil Engineering Restricted Elective Courses (3 credit hours)***
*Select one of the following (that hasn't already been taken):*
CEGR 3221 - Structural Steel Design I (3)
CEGR 3225 - Reinforced Concrete Design I (3)

***Civil Engineering Unrestricted Elective Courses (6 credit hours)***
*Select two from the following:*
CEGR 3000-3999
CEGR 4000-4999

***Technical Elective Courses (3 credit hours)***
Select one technical elective course from the list below. Any course not appearing on this list requires written permission from the Undergraduate Director prior to registering for the course. Any non-listed courses must be at the 3000-level or above and must come from one of the departments listed below.

*Accounting*
ACCT 3330 - Managerial Cost Accounting (3)

*Biology*
BIOL 4144 - Advanced Ecology (4)
BIOL 4250 - Microbiology (3)
BIOL 3000-4999 – Biological Sciences Elective

*Business Administration*
BLAW 3150 - Business Law I (3)
BLAW 3250 - Business Law II (3)
COMM 3160 - Business Communications (3)
FINN 3120 - Financial Management (3)
MKTG 3110 - Marketing Concepts (3)

*Chemistry*
CHEM 1252 - General Chemistry II (3)
CHEM 2000-4999 – Chemistry Elective

*Computer Science*
ITCS 3000-4999 – Computer Science Elective

*Earth Sciences*
ESCI 3180 - Environmental Impact Analysis (3)
ESCI 4140 - Hydrologic Processes (4)
GEOL 3130 - Structural Geology (4)
GEOL 3190 - Environmental Geology (3)
GEOL 3000-4999 – Geology Elective

*Economics*
ECON 3125 - Managerial Economics (3)
ECON 4150 - Urban and Regional Economics (3)
ECON 4160 - Economics of Transportation (3)
ECON 4171 - Economics of International Trade (3)
ECON 4181 - Environmental Economics (3)
ECON 3000-4999 – Economics Elective

*Engineering*
CEGR 3000-4999 – Civil Engineering Elective
ECGR 3000-4999 – Electrical and Computer Engineering Elective
MEGR 3000-4999 – Mechanical Engineering Elective
SEGR 3000-4999 – Systems Engineering Elective

*Geography*
GEOG 3100 - The City and Its Region (3)
GEOG 3115 - Urban Transportation Problems (3)

GEOG 3200 - Land Use Planning (3)
GEOG 3210 - Regional Planning (3)
GEOG 3215 - Environmental Planning (3)
GEOG 4155 - Retail Location (3)
GEOG 4160 - The Geography of Transportation Systems (3)
GEOG 3000-4999 – Geography Elective

*Management Information Systems*
INFO 3000-4999 – Management Information Systems Elective

*Mathematics*
MATH 2164 - Matrices and Linear Algebra (3)
MATH 2242 - Calculus IV (3)
MATH 3000-4999 – Mathematics Elective

*Physics*
PHYS 3000-4999 – Physics Elective

*Operations Management*
OPER 3100 - Operations Management (3)
OPER 3201 - Operations Planning and Control (3)
OPER 3203 - Decision Modeling and Analysis (3)
OPER 3204 - Management of Service and Project Operations (3)
OPER 3206 - Quality Assurance and Management (3)

*Operations Research*
OPRS 3111 - Operations Research: Deterministic Models (3)
OPRS 3113 - Operations Research: Probabilistic Models (3)
OPRS 3000-4999 – Operations Research Elective

*Statistics*
STAT 3000-4999 – Statistics Elective

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements

After completing the Common First Year Curriculum (CFY) courses, students will decide on their engineering major for their second through fourth years, which may be the major they initially indicated or any other engineering major. Students must meet the following requirements in order to register for major courses:

**Engineering Majors**

Engineering majors must complete all of the requirements below before enrolling in W.S. Lee College of Engineering sophomore-year engineering courses.

- Pass all courses within two attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1242, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.5 cumulative GPA upon completion of the Common First Year Curriculum courses (2.80 for Mechanical Engineering majors)

**Engineering Technology and Construction Management Majors**

**Civil Engineering Technology**

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Electromechanical Engineering Technology**

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241 with grade of C or above and PHYS 2101 and PHYS 2101L
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Mechanical Engineering Technology**

- Pass all courses within three attempts, including withdrawing from course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.2 cumulative GPA upon completion of the Common First Year Courses

**Construction Management**

- Complete CMET 1400, ETCE 1222, ETCE 1211L, and MATH 1103
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Fire & Safety)**

- Complete ETFS 1152, ETFS 1201, ETFS 1220, ETFS 1244, and MATH 1100
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Occupational Safety)**

- Complete BIOL 1110, ETFS 1201, ETFS 1220, ETGR 2230, MATH
- 1103, PSYC 1101 and STAT 1220
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

## Concentrations

The B.S.C.E. degree is also available with optional Concentrations in Energy Infrastructure, Environmental/Water Resources Engineering, Geotechnical Engineering, Land Development Engineering, Structures, and Transportation. See the following individual listings for each.

# Bachelor of Science in Civil Engineering (B.S.C.E.) *with Concentration in Energy Infrastructure*

The Bachelor of Science in Civil Engineering (B.S.C.E.) with a Concentration in Energy Infrastructure requires a minimum of 120 credit hours. The Concentration in Energy Infrastructure is intended for students interested in a specialized focus in energy as it relates to civil engineering, infrastructure, and environmental issues related to the development, generation, and distribution of energy.

Through careful course selection and scheduling, students can obtain the Concentration in Energy Infrastructure within the required 120-hour B.S.C.E. curriculum. Students completing the requirements described in this program receive a special designation on their transcripts showing they have completed the Concentration in Energy Infrastructure.

## Admission Requirements

**First-Year Students**

First-year admission is competitive, based upon an overall evaluation of the high school record, with particular emphasis on advanced courses in math and science. See University Admission Requirements for a detailed description of the criteria.

First-Year students may either select a major at the time of their application or may choose to be Engineering-undeclared. All First-Year

College of Engineering students will take a common set of courses called the Common First Year. Towards the end of their first year, having completed all progression requirements, students will declare or confirm their Engineering Major for the second through fourth years. This selection may be the major they initially indicated or any other engineering major for which they meet the progression requirements.

### Transfers

All transfer students will be evaluated for placement into a departmental Program or the Common First Year program based on the evaluation of their transfer credits (consistent with the North Carolina articulation agreements).

- See University Admission Requirements
- Minimum GPA: 2.50 (2.80 for Mechanical Engineering)
- Pre-Major/Prerequisite Courses:
  - Engineering Programs: Calculus I course (equivalent to MATH 1241), with a grade of C or above
  - Engineering Technology Programs: Pre-calculus course (equivalent to MATH 1103) or higher, with a grade of C or above
- Transferable Credit Hours: Minimum of 24

Transfers from an ABET-accredited engineering program who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

### Currently Enrolled Students

- A grade of C or above is required for selected major Courses. Students must earn at least a 2.50 GPA in the selected Concentration Courses.

### Internal Change of Major

Internal change of majors within the College of Engineering must have a minimum GPA of 2.50 (2.80 for Mechanical Engineering). Students who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

### Change of Major Into a Program in the College of Engineering

First-time college students who seek eligibility for a change of major from a non-engineering major into an engineering program are required to:

- Complete the First-Year Curriculum.
- Have no more than two attempts per course, including withdrawing from a course with a grade of W.
- Achieve an overall GPA of 2.50 (2.80 for Mechanical Engineering).

### Students Seeking Eligibility for a Change of Major

- Should continue to be advised by their current advisor.
- Should focus on successfully completing courses that count towards the program of interest and not rely on grades in unrelated courses to elevate the GPA.
- Are not permitted to enroll in Sophomore engineering courses.
- May request authorization to enroll in ENGR 1300, ENGR 1301, ENGR 1302 or ENGR 1303 via a request to the College of Engineering Advising department at osds-advising@charlotte.edu.

### Transfers Seeking Eligibility for a Change of Major

Students who transfer to Charlotte into a non-engineering major and have not met the Transfer Requirements for a given engineering program are not guaranteed to be considered for a change of major. Representatives of the program of interest make decisions on a student's eligibility to pursue a change of major based on a holistic review of a student's entire academic record, including grades earned at other institutions. A record of unsuccessful attempts in courses will weigh negatively on such decisions. If transfer students are allowed to pursue eligibility for a change of major to a given program, they will be required to:

- Complete the Common First-Year Curriculum.
- Have no more than two attempts per course including withdrawing from a course with a grade of W.
- Achieve an overall GPA of 2.50 (2.80 for Mechanical Engineering).
- Complete at least 12 credits of courses at Charlotte, including at least four courses in math, science and/or engineering.

## Common First-Year Curriculum (CFY)

The College of Engineering uses a Common First-Year Curriculum (CFY) for all Engineering students in order to:

- Provide a strong academic base of foundational knowledge and skills
- Facilitate changing majors within the first year
- Support students with lower math placement and increase access to all majors
- Allow students to explore different majors before committing
- Enhance learning with innovative pedagogies and activities

### Common First-Year Courses

All new first-year students are initially advised by a central office within the W.S. Lee College of Engineering. Students must complete the following classes that are common to all majors of the college (except Construction Management and Fire and Safety Engineering Technology) in order to progress and matriculate to their major department. *All First-Year Curriculum courses require a grade of C or better.*

ENGR 1300 Exploring Engineering & Technology with Success (2)
ENGR 1301 Foundations of Math and Science for Engineering (3)
ENGR 1302 Logic and Computational Problem Solving (3)
ENGR 1303 Engineering Visualization and Graphical Communication (3)
PHYS 2101 (3)
PHYS 2101L (1)
Two MATH courses: MATH 1103* or MATH 1241* or MATH 1242* (3 each)
*See Notes 1 and 2 below*

* All students should consult their advisor to select the math courses that match their planned major.

#### *Note 1*

Progression into Civil Engineering, Computer Engineering, Construction Engineering, Electrical Engineering, Environmental Engineering, Mechanical Engineering, and Systems Engineering Major Courses after completing the Common First Year Curriculum requires that students also complete MATH 1241, MATH 1242, PHYS 2101, and PHYS 2101L.

#### *Note 2*

Progression into Civil Engineering Technology, Electromechanical Engineering Technology, and Mechanical Engineering Technology Major Courses after completing the Common First Year Curriculum requires that students complete MATH 1241, PHYS 2101, and PHYS 2101L with a C or better (except for Electromechanical Engineering Technology).

***Note 3***
Students must earn at least a 2.0 GPA in the first semester to continue into the second semester.

## Degree Requirements

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

Elective courses should be chosen to satisfy University General Education requirements, meet the objectives of a broad education consistent with the educational goals of the profession, and complement the student's overall educational plan. To avoid taking "extra" elective courses, students must select their elective courses carefully after consulting with their faculty advisor.

**First-Year Courses (21 credit hours)**
See Common First-Year Curriculum (CFY) for details.

**Additional Foundation Courses (19 credit hours)**
***Required Foundation Courses (16 credit hours)***
CHEM 1352 - General Chemistry for Engineers (4)
MATH 2171 - Differential Equations (3) *
MATH 2241 - Calculus III (3) *
PHYS 2102 - Physics for Science and Engineering II (3)
STAT 3128 - Probability and Statistics for Engineers (3)

***Elective Foundation Course (3 credit hours)***
*Select one of the following:*
BIOL 1110 - Principles of Biology I (3)
BIOL 1115 - Principles of Biology II (3)
BIOL 2120 - General Biology I (3)
BIOL 2259 - Fundamentals of Microbiology (3)
BIOL 2273 - Human Anatomy and Physiology (3)
BIOL 3111 - Cell Biology (3)
BIOL 4250 - Microbiology (3)
ESCI 1101 - Earth Sciences-Geography (3)
GEOL 1200 - Physical Geology (3)
GEOL 2100 - The Violent Earth (3)
GEOL 3190 - Environmental Geology (3)
** A grade of C or above is required.*

**Major Courses (41 credit hours)**
CEGR 2101 - Civil Engineering Drawing (2) *
CEGR 2102 - Engineering Economic Analysis (3) *
CEGR 2154 - Design Project Lab (2) *
CEGR 3111 - Construction Engineering (3) *
CEGR 3122 - Structural Analysis (3) *
CEGR 3141 - Introduction to Environmental Engineering (3) *
CEGR 3143 - Hydraulics and Hydrology (3) *
CEGR 3153 - Transportation Laboratory (2)
CEGR 3155 - Environmental Laboratory (2)
CEGR 3161 - Transportation Engineering I (3) *
CEGR 3201 - Systems and Design (3)
CEGR 3256 - Structural Materials Laboratory (1) *
CEGR 3259 - Geotechnical Laboratory (1)
CEGR 3278 - Geotechnical Engineering (3) *
ENGR 3295 - Multidisciplinary Professional Development (1)
MEGR 2141 - Engineering Mechanics I (3) *
MEGR 2144 - Introduction to Solid Mechanics (3) *
**A grade of C or above is required.*

**Elective Courses (21 credit hours)**
***Civil Engineering Concentration Design Courses (6 credit hours)***
CEGR 4122 - Power Plant Design (3) *
CEGR 4264 - Landfill Design (3) *
**A grade of C or above is required.*

***Mechanical/Electrical Engineering Elective Course (3 credit hours)***
*Select one of the following:*
ECGR 2161 - Basic Electrical Engineering I (3)
MEGR 3111 - Thermodynamics I (3)
MEGR 3121 - Dynamics Systems I (3)

***Civil Engineering Restricted Elective Courses (3 credit hours)***
*Select one of the following:*
CEGR 3221 - Structural Steel Design I (3)
CEGR 3225 - Reinforced Concrete Design I (3)

***Civil Engineering Concentration Elective Courses (6 credit hours)***
*Take two of the following courses:*
CEGR 3891 - Energy Infrastructure Individualized Study (3) *
CEGR 4146 - Advanced Engineering Hydraulics (3) *
CEGR 4246 - Energy and the Environment (3) *
**A grade of C or above is required.*

***Concentration Elective Courses (3 credit hours)***
Select one course from the list below.
CEGR 4247 - Sustainability (3) *
ECON 4181 - Environmental Economics (3) *
ECGR 4171 - Introduction to Energy Systems (3) *
**A grade of C or above is required.*

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements

After completing the Common First Year Curriculum (CFY) courses, students will decide on their engineering major for their second through fourth years, which may be the major they initially indicated or any other engineering major. Students must meet the following requirements in order to register for major courses:

**Engineering Majors**
Engineering majors must complete all of the requirements below before enrolling in W.S. Lee College of Engineering sophomore-year engineering courses.

- Pass all courses within two attempts, including withdrawing from a course with a grade of W

- Complete all courses in the Common First Year Curriculum, including MATH 1242, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.5 cumulative GPA upon completion of the Common First Year Curriculum courses (2.80 for Mechanical Engineering majors)

**Engineering Technology and Construction Management Majors**
**Civil Engineering Technology**
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Electromechanical Engineering Technology**
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241 with grade of C or above and PHYS 2101 and PHYS 2101L
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Mechanical Engineering Technology**
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.2 cumulative GPA upon completion of the Common First Year Courses

**Construction Management**
- Complete CMET 1400, ETCE 1222, ETCE 1211L, and MATH 1103
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Fire & Safety)**
- Complete ETFS 1152, ETFS 1201, ETFS 1220, ETFS 1244, and MATH 1100
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Occupational Safety)**
- Complete BIOL 1110, ETFS 1201, ETFS 1220, ETGR 2230, MATH
- 1103, PSYC 1101 and STAT 1220
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

# Bachelor of Science in Civil Engineering (B.S.C.E.) *with Concentration in Land Development Engineering*

The Bachelor of Science in Civil Engineering (B.S.C.E.) with a Concentration in Land Development Engineering is intended for students interested in a specialized focus in land development engineering as it relates to civil engineering and infrastructure issues.

Through careful course selection and scheduling, students can obtain the Concentration in Land Development Engineering within the required 120 credit hour B.S.C.E. curriculum. Students completing the requirements described in this program receive a special designation on their transcripts showing they have completed the Concentration in Land Development Engineering.

## Admission Requirements

### First-Year Students

First-year admission is competitive, based upon an overall evaluation of the high school record, with particular emphasis on advanced courses in math and science. See University Admission Requirements for a detailed description of the criteria.

First-Year students may either select a major at the time of their application or may choose to be Engineering-undeclared. All First-Year College of Engineering students will take a common set of courses called the Common First Year. Towards the end of their first year, having completed all progression requirements, students will declare or confirm their Engineering Major for the second through fourth years. This selection may be the major they initially indicated or any other engineering major for which they meet the progression requirements.

### Transfers

All transfer students will be evaluated for placement into a departmental Program or the Common First Year program based on the evaluation of their transfer credits (consistent with the North Carolina articulation agreements).

- See University Admission Requirements
- Minimum GPA: 2.50 (2.80 for Mechanical Engineering)
- Pre-Major/Prerequisite Courses:
  - Engineering Programs: Calculus I course (equivalent to MATH 1241), with a grade of C or above
  - Engineering Technology Programs: Pre-calculus course (equivalent to MATH 1103) or higher, with a grade of C or above
- Transferable Credit Hours: Minimum of 24

Transfers from an ABET-accredited engineering program who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

### Currently Enrolled Students

- A grade of C or above is required for selected major Courses.

Students must earn at least a 2.50 GPA in the selected Concentration Courses.

### Internal Change of Major

Internal change of majors within the College of Engineering must have a minimum GPA of 2.50 (2.80 for Mechanical Engineering). Students who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

### Change of Major Into a Program in the College of Engineering

First-time college students who seek eligibility for a change of major from a non-engineering major into an engineering program are required to:

- Complete the First-Year Curriculum.
- Have no more than two attempts per course, including withdrawing from a course with a grade of W.
- Achieve an overall GPA of 2.50 (2.80 for Mechanical Engineering).

### Students Seeking Eligibility for a Change of Major

- Should continue to be advised by their current advisor.
- Should focus on successfully completing courses that count towards the program of interest and not rely on grades in unrelated courses to elevate the GPA.
- Are not permitted to enroll in Sophomore engineering courses.
- May request authorization to enroll in ENGR 1300, ENGR 1301, ENGR 1302 or ENGR 1303 via a request to the College of Engineering Advising department at osds-advising@charlotte.edu.

### Transfers Seeking Eligibility for a Change of Major

Students who transfer to Charlotte into a non-engineering major and have not met the Transfer Requirements for a given engineering program are not guaranteed to be considered for a change of major. Representatives of the program of interest make decisions on a student's eligibility to pursue a change of major based on a holistic review of a student's entire academic record, including grades earned at other institutions. A record of unsuccessful attempts in courses will weigh negatively on such decisions. If transfer students are allowed to pursue eligibility for a change of major to a given program, they will be required to:

- Complete the Common First-Year Curriculum.
- Have no more than two attempts per course including withdrawing from a course with a grade of W.
- Achieve an overall GPA of 2.50 (2.80 for Mechanical Engineering).
- Complete at least 12 credits of courses at Charlotte, including at least four courses in math, science and/or engineering.

## Common First-Year Curriculum (CFY)

The College of Engineering uses a Common First-Year Curriculum (CFY) for all Engineering students in order to:

- Provide a strong academic base of foundational knowledge and skills
- Facilitate changing majors within the first year
- Support students with lower math placement and increase access to all majors
- Allow students to explore different majors before committing
- Enhance learning with innovative pedagogies and activities

### Common First-Year Courses

All new first-year students are initially advised by a central office within the W.S. Lee College of Engineering. Students must complete the following classes that are common to all majors of the college (except Construction Management and Fire and Safety Engineering Technology) in order to progress and matriculate to their major department. *All First-Year Curriculum courses require a grade of C or better.*

ENGR 1300 Exploring Engineering & Technology with Success (2)
ENGR 1301 Foundations of Math and Science for Engineering (3)
ENGR 1302 Logic and Computational Problem Solving (3)
ENGR 1303 Engineering Visualization and Graphical Communication (3)
PHYS 2101 (3)
PHYS 2101L (1)
Two MATH courses: MATH 1103* or MATH 1241* or MATH 1242* (3 each)
*See Notes 1 and 2 below*

* All students should consult their advisor to select the math courses that match their planned major.

***Note 1***

Progression into Civil Engineering, Computer Engineering, Construction Engineering, Electrical Engineering, Environmental Engineering, Mechanical Engineering, and Systems Engineering Major Courses after completing the Common First Year Curriculum requires that students also complete MATH 1241, MATH 1242, PHYS 2101, and PHYS 2101L.

***Note 2***

Progression into Civil Engineering Technology, Electromechanical Engineering Technology, and Mechanical Engineering Technology Major Courses after completing the Common First Year Curriculum requires that students complete MATH 1241, PHYS 2101, and PHYS 2101L with a C or better (except for Electromechanical Engineering Technology).

***Note 3***

Students must earn at least a 2.0 GPA in the first semester to continue into the second semester.

## Degree Requirements

### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

Elective courses should be chosen to satisfy University General Education requirements, meet the objectives of a broad education consistent with the educational goals of the profession, and complement the student's overall educational plan. To avoid taking "extra" elective courses, students must select their elective courses carefully after consulting with their faculty advisor.

### First-Year Courses (21 credit hours)

See Common First-Year Curriculum (CFY) for details.

### Additional Foundation Courses (19 credit hours)

***Required Foundation Courses (16 credit hours)***

CHEM 1352 - General Chemistry for Engineers (4)
MATH 2171 - Differential Equations (3) *
MATH 2241 - Calculus III (3) *
PHYS 2102 - Physics for Science and Engineering II (3)

STAT 3128 - Probability and Statistics for Engineers (3)
**A grade of C or above is required.*

***Elective Foundation Course (3 credit hours)***
*Select one of the following:*
BIOL 1110 - Principles of Biology I (3)
BIOL 1115 - Principles of Biology II (3)
BIOL 2120 - General Biology I (3)
BIOL 2259 - Fundamentals of Microbiology (3)
BIOL 2273 - Human Anatomy and Physiology (3)
BIOL 3111 - Cell Biology (3)
BIOL 4250 - Microbiology (3)
ESCI 1101 - Earth Sciences-Geography (3)
GEOL 1200 - Physical Geology (3)
GEOL 2100 - The Violent Earth (3)
GEOL 3190 - Environmental Geology (3)

**Major Courses (41 credit hours)**
CEGR 2101 - Civil Engineering Drawing (2) *
CEGR 2102 - Engineering Economic Analysis (3) *
CEGR 2154 - Design Project Lab (2) *
CEGR 3111 - Construction Engineering (3) *
CEGR 3122 - Structural Analysis (3) *
CEGR 3141 - Introduction to Environmental Engineering (3) *
CEGR 3143 - Hydraulics and Hydrology (3) *
CEGR 3153 - Transportation Laboratory (2)
CEGR 3155 - Environmental Laboratory (2)
CEGR 3161 - Transportation Engineering I (3) *
CEGR 3201 - Systems and Design (3)
CEGR 3256 - Structural Materials Laboratory (1) *
CEGR 3259 - Geotechnical Laboratory (1)
CEGR 3278 - Geotechnical Engineering (3) *
ENGR 3295 - Multidisciplinary Professional Development (1)
MEGR 2141 - Engineering Mechanics I (3) *
MEGR 2144 - Introduction to Solid Mechanics (3) *
**A grade of C or above is required.*

**Elective Courses (21 credit hours)**
***Civil Engineering Concentration Design Courses (6 credit hours)***
CEGR 4147 - Stormwater Management (3)*
CEGR 4185 - Geometric Design of Highways (3)*
**A grade of C or above is required.*

***Mechanical/Electrical Engineering Elective Course (3 credit hours)***
*Select one of the following:*
ECGR 2161 - Basic Electrical Engineering I (3)
MEGR 3111 - Thermodynamics I (3)
MEGR 3121 - Dynamics Systems I (3)

***Civil Engineering Restricted Elective Courses (3 credit hours)***
*Select one of the following:*
CEGR 3221 - Structural Steel Design I (3)
CEGR 3225 - Reinforced Concrete Design I (3)

***Civil Engineering Concentration Courses (6 credit hours)***
CEGR 3231 - Land Development Engineering Fundamentals (3) *
CEGR 3235 - Land Development Engineering - Advanced Site Analysis (3) *
**A grade of C or above is required.*

***Concentration Elective Courses (3 credit hours)***
Select one course from the list below. Any course not appearing on this list requires written permission from the Undergraduate Director prior to registering for the course.
CEGR 3233 - Land Development Engineering Studio (3) *
CEGR 4247 - Sustainability (3) *
**A grade of C or above is required.*

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements

**First-Year Requirements**
After completing the Common First Year Curriculum (CFY) courses, students will decide on their engineering major for their second through fourth years, which may be the major they initially indicated or any other engineering major. Students must meet the following requirements in order to register for major courses:

**Engineering Majors**
Engineering majors must complete all of the requirements below before enrolling in W.S. Lee College of Engineering sophomore-year engineering courses.

- Pass all courses within two attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1242, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.5 cumulative GPA upon completion of the Common First Year Curriculum courses (2.80 for Mechanical Engineering majors)

**Engineering Technology and Construction Management Majors**
**Civil Engineering Technology**

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Electromechanical Engineering Technology**

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241 with grade of C or above and PHYS 2101 and PHYS 2101L
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Mechanical Engineering Technology**
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.2 cumulative GPA upon completion of the Common First Year Courses

**Construction Management**
- Complete CMET 1400, ETCE 1222, ETCE 1211L, and MATH 1103
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Fire & Safety)**
- Complete ETFS 1152, ETFS 1201, ETFS 1220, ETFS 1244, and MATH 1100
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Occupational Safety)**
- Complete BIOL 1110, ETFS 1201, ETFS 1220, ETGR 2230, MATH
- 1103, PSYC 1101 and STAT 1220
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

# Bachelor of Science in Environmental Engineering (B.S.)

Coursework combines training in the core subject matter of Environmental Engineering with design experience that runs throughout the curriculum, students will have opportunities to assess, analyze, and solve real-world and locally relevant problems related to contamination of soils, water, and the atmosphere.

All program-level Admissions and Progression Requirements are in addition to the University of North Carolina at Charlotte Admission Requirements.

## Admission Requirements

### First-Year Students

First-year admission is competitive, based upon an overall evaluation of the high school record, with particular emphasis on advanced courses in math and science. See University Admission Requirements for a detailed description of the criteria.

First-Year students may either select a major at the time of their application or may choose to be Engineering-undeclared. All First-Year College of Engineering students will take a common set of courses called the Common First Year. Towards the end of their first year, having completed all progression requirements, students will declare or confirm their Engineering Major for the second through fourth years. This selection may be the major they initially indicated or any other engineering major for which they meet the progression requirements.

### Transfers

All transfer students will be evaluated for placement into a departmental Program or the Common First Year program based on the evaluation of their transfer credits (consistent with the North Carolina articulation agreements).

- See University Admission Requirements
- Minimum GPA: 2.50 (2.80 for Mechanical Engineering)
- Pre-Major/Prerequisite Courses:
  - Engineering Programs: Calculus I course (equivalent to MATH 1241), with a grade of C or above
  - Engineering Technology Programs: Pre-calculus course (equivalent to MATH 1103) or higher, with a grade of C or above
- Transferable Credit Hours: Minimum of 24

Transfers from an ABET-accredited engineering program who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

### Currently Enrolled Students

### Internal Change of Major

Internal change of majors within the College of Engineering must have a minimum GPA of 2.50 (2.80 for Mechanical Engineering). Students who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

### Change of Major Into a Program in the College of Engineering

First-time college students who seek eligibility for a change of major from a non-engineering major into an engineering program are required to:
- Complete the First-Year Curriculum.
- Have no more than two attempts per course, including withdrawing from a course with a grade of W.
- Achieve an overall GPA of 2.50 (2.80 for Mechanical Engineering).

### Students Seeking Eligibility for a Change of Major

- Should continue to be advised by their current advisor.
- Should focus on successfully completing courses that count towards the program of interest and not rely on grades in unrelated courses to elevate the GPA.
- Are not permitted to enroll in Sophomore engineering courses.
- May request authorization to enroll in ENGR 1300, ENGR 1301, ENGR 1302 or ENGR 1303 via a request to the College of Engineering Advising department at osds-advising@charlotte.edu.

### Transfers Seeking Eligibility for a Change of Major

Students who transfer to Charlotte into a non-engineering major and have not met the Transfer Requirements for a given engineering program are not guaranteed to be considered for a change of major. Representatives of the program of interest make decisions on a student's eligibility to pursue a change of major based on a holistic review of a student's entire academic record, including grades earned at other institutions. A record of unsuccessful attempts in courses will weigh negatively on such

decisions. If transfer students are allowed to pursue eligibility for a change of major to a given program, they will be required to:

- Complete the Common First-Year Curriculum.
- Have no more than two attempts per course including withdrawing from a course with a grade of W.
- Achieve an overall GPA of 2.50 (2.80 for Mechanical Engineering).
- Complete at least 12 credits of courses at Charlotte, including at least four courses in math, science and/or engineering.

## Common First-Year Curriculum (CFY)

The College of Engineering uses a Common First-Year Curriculum (CFY) for all Engineering students in order to:

- Provide a strong academic base of foundational knowledge and skills
- Facilitate changing majors within the first year
- Support students with lower math placement and increase access to all majors
- Allow students to explore different majors before committing
- Enhance learning with innovative pedagogies and activities

### Common First-Year Courses

All new first-year students are initially advised by a central office within the W.S. Lee College of Engineering. Students must complete the following classes that are common to all majors of the college (except Construction Management and Fire and Safety Engineering Technology) in order to progress and matriculate to their major department. *All First-Year Curriculum courses require a grade of C or better.*

ENGR 1300 Exploring Engineering & Technology with Success (2)
ENGR 1301 Foundations of Math and Science for Engineering (3)
ENGR 1302 Logic and Computational Problem Solving (3)
ENGR 1303 Engineering Visualization and Graphical Communication (3)
PHYS 2101 (3)
PHYS 2101L (1)
Two MATH courses: MATH 1103* or MATH 1241* or MATH 1242* (3 each)
*See Notes 1 and 2 below*

* All students should consult their advisor to select the math courses that match their planned major.

### *Note 1*

Progression into Civil Engineering, Computer Engineering, Construction Engineering, Electrical Engineering, Environmental Engineering, Mechanical Engineering, and Systems Engineering Major Courses after completing the Common First Year Curriculum requires that students also complete MATH 1241, MATH 1242, PHYS 2101, and PHYS 2101L.

### *Note 2*

Progression into Civil Engineering Technology, Electromechanical Engineering Technology, and Mechanical Engineering Technology Major Courses after completing the Common First Year Curriculum requires that students complete MATH 1241, PHYS 2101, and PHYS 2101L with a C or better (except for Electromechanical Engineering Technology).

### *Note 3*

Students must earn at least a 2.0 GPA in the first semester to continue into the second semester.

## Degree Requirements

### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

Elective courses should be chosen to satisfy University General Education requirements, meet the objectives of a broad education consistent with the educational goals of the profession, and complement the student's overall educational plan. To avoid taking "extra" elective courses, students must select their elective courses carefully after consulting with their faculty advisor.

### First-Year Courses (21 credit hours)

See Common First-Year Curriculum (CFY) for details.

### Additional Required Foundation Courses (19 credit hours)

BIOL 1110 - Principles of Biology I (3)
CHEM 1352 - General Chemistry for Engineers (4)
ESCI 2210 - Field Methods in the Earth and Environmental Sciences (3) *
MATH 2171 - Differential Equations (3) *
MATH 2241 - Calculus III (3) *
STAT 3128 - Probability and Statistics for Engineers (3)

### Major Courses (46 credit hours)

CEGR 2101 - Civil Engineering Drawing (2) *
CEGR 2102 - Engineering Economic Analysis (3) *
CEGR 2154 - Design Project Lab (2) *
CEGR 3141 - Introduction to Environmental Engineering (3) *
CEGR 3143 - Hydraulics and Hydrology (3) *
CEGR 3155 - Environmental Laboratory (2)
CEGR 4142 - Water Treatment Engineering (3) *
CEGR 4144 - Engineering Hydrology (3) *
CEGR 4146 - Advanced Engineering Hydraulics (3) *
CEGR 4149 - Environmental Engineering Principles and Practices (3) *
CEGR 4153 - Fundamentals of Environmental Microbiology (3) *
CEGR 4242 - Wastewater Treatment Design (3) *
ENVE 3111 - Construction Engineering (2) *
ENVE 3145 - Hydraulics Engineering Lab (2)
ENVE 3202 - Environmental Systems and Design (2)
ENGR 3295 - Multidisciplinary Professional Development (1)
MEGR 2141 - Engineering Mechanics I (3) *
MEGR 3111 - Thermodynamics I (3) *

** A grade of C or above is required.*

### Earth Science Elective (4 credit hours)

*Select one of the two Earth Science Electives:*
ESCI 4233 - Geoenvironmental Site Characterization (4)

### Subsurface Flow Elective (4 credit hours)

*Select one of the courses shown below:*
CEGR 4145 - Groundwater Resources Engineering (3)
CEGR 4264 - Landfill Design (3)

### CEGR Elective (3 credit hours)

*Select one course from any CEGR course from 3000 to 4999.*

**Technical Electives (6 credit hours)**
Select two technical elective courses from the list below. Any course not appearing on this list requires written permission from the Undergraduate Director prior to registering for the course. Any non-listed courses must be at the 3000-level or above and must come from one of the departments listed below.

*Accounting*
ACCT 3330 - Managerial Cost Accounting (3)

*Biology*
BIOL 2259 - Fundamentals of Microbiology (3)
BIOL 4144 - Advanced Ecology (4)
BIOL 4250 - Microbiology (3)
BIOL 3000-4999

*Business Administration*
BLAW 3150 - Business Law I (3)
BLAW 3250 - Business Law II (3)
COMM 3160 - Business Communications (3)
FINN 3120 - Financial Management (3)
MKTG 3110 - Principles of Marketing (3)

*Chemistry*
CHEM 2000-4999
CHEM 3111 - Quantitative Analysis (4)

*Computer Science*
ITCS 3000-4999

*Earth Sciences*
ESCI 3180 - Environmental Impact Analysis (3)
ESCI 3205 - Water Resources (3)
ESCI 4140 - Hydrologic Processes (4)
ESCI 4146 - The Business of Ecological Restoration (3)
ESCI 4155 - Fluvial Processes (4)
ESCI 4160 - Contaminant Transport (3)
GEOL 4105 - Geomorphology (4)
GEOL 4115 - Applied Geophysics (4)

*Economics*
ECON 4181 - Environmental Economics (3)

*Engineering*
CEGR 3000-4999
ECGR 3000-4999
MEGR 3000-4999
SEGR 3000-4999

*Geography*
GEOG 3120 - Fundamentals of Geographic Information Systems (4)
GEOG 3200 - Land Use Planning (3)
GEOG 3210 - Regional Planning (3)
GEOG 3215 - Environmental Planning (3)
GEOG 4110 - GIS for Non-Majors (3)
GEOG 4131 - Environmental Modeling with GIS (4)

*Management Information Systems*
INFO 3000-4999

*Mathematics*
MATH 2164 - Matrices and Linear Algebra (3)
MATH 2242 - Calculus IV (3)
MATH 3000-4999

*Physics*
PHYS 3000-4999

*Operations Management*
OPER 3100 - Operations Management (3)
OPER 3201 - Operations Planning and Control (3)
OPER 3203 - Decision Modeling and Analysis (3)
OPER 3204 - Management of Service and Project Operations (3)
OPER 3206 - Quality Assurance and Management (3)

*Operations Research*
OPRS 3111 - Operations Research: Deterministic Models (3)
OPRS 3113 - Operations Research: Probabilistic Models (3)

*Statistics*
STAT 3000 - 4999

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements

After completing the Common First Year Curriculum (CFY) courses, students will decide on their engineering major for their second through fourth years, which may be the major they initially indicated or any other engineering major. Students must meet the following requirements in order to register for major courses:

**Engineering Majors**
Engineering majors must complete all of the requirements below before enrolling in W.S. Lee College of Engineering sophomore-year engineering courses.

- Pass all courses within two attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1242, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.5 cumulative GPA upon completion of the Common First Year Curriculum courses (2.80 for Mechanical Engineering majors)

**Engineering Technology and Construction Management Majors**
**Civil Engineering Technology**

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters

- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Electromechanical Engineering Technology**
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241 with grade of C or above and PHYS 2101 and PHYS 2101L
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Mechanical Engineering Technology**
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.2 cumulative GPA upon completion of the Common First Year Courses

**Construction Management**
- Complete CMET 1400, ETCE 1222, ETCE 1211L, and MATH 1103
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Fire & Safety)**
- Complete ETFS 1152, ETFS 1201, ETFS 1220, ETFS 1244, and MATH 1100
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Occupational Safety)**
- Complete BIOL 1110, ETFS 1201, ETFS 1220, ETGR 2230, MATH
- 1103, PSYC 1101 and STAT 1220
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

# Early Entry: Master of Science in Civil Engineering

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**
- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is required that 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.20 overall undergraduate GPA
- Minimum 3.20 GPA in the major
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Department of Civil and Environmental Engineering and approved by the Graduate School

## Progression Requirements
- Upon admission, meeting with the graduate advisor is required every semester prior to registering for coursework each semester.
- Approved academic petitions every semester in order to register for double counted or graduate only coursework are required, confirming the approval of the Graduate Academic Advisor and Coordinator, Graduate Program Director, and Graduate School prior to registration each semester.
- Maintain a minimum 3.00 overall undergraduate GPA
- Students are expected to achieve a commendable or satisfactory grade (A or B) in all coursework attempted for graduate credit. Students who fail to maintain satisfactory progress toward their degree or who do not achieve commendable or satisfactory grades in all their graduate coursework are subject to suspension and/or termination from their program of study and/or the Graduate School.
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree.

## Special Policies or Requirements

Up to 9 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 9 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees). For details, see the "Double Counted Coursework" section of this program.

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

**Double Counted Coursework**

| *Civil Engineering Design Elective Courses* | |
|---|---|
| **Undergraduate Course** | **Graduate Substitution** |
| ***Option 1: Environmental Engineering*** | |
| CEGR 4142 | CEGR 5142 |
| CEGR 4147 | CEGR 5147 |
| CEGR 4242 | CEGR 5242 |
| ***Option 2: Geotechnical Engineering*** | |
| CEGR 4278 | CEGR 5278 |

| | |
|---|---|
| CEGR 4264 | CEGR 5264 |
| CEGR 4270 | CEGR 5270 |
| *Option 3: Structural Engineering* | |
| CEGR 4122 | CEGR 5122 |
| *Option 4: Transportation Engineering* | |
| CEGR 4161 | CEGR 5161 |
| CEGR 4162 | CEGR 5162 |
| CEGR 4185 | CEGR 5185 |
| CEGR 4262 | CEGR 5262 |

| *Civil Engineering Unrestricted Elective Courses* | |
|---|---|
| **Undergraduate Course** | **Graduate Substitution** |
| CEGR 4090 | CEGR 5090 |
| CEGR 4108 | CEGR 5108 |
| CEGR 4122 | CEGR 5122 |
| CEGR 4142 | CEGR 5142 |
| CEGR 4144 | CEGR 5144 |
| CEGR 4145 | CEGR 5145 |
| CEGR 4146 | CEGR 5146 |
| CEGR 4147 | CEGR 5147 |
| CEGR 4149 | CEGR 5149 |
| CEGR 4153 | CEGR 5153 |
| CEGR 4161 | CEGR 5161 |
| CEGR 4162 | CEGR 5162 |
| CEGR 4168 | CEGR 5168 |
| CEGR 4171 | CEGR 5171 |
| CEGR 4181 | CEGR 5181 |
| CEGR 4182 | CEGR 5182 |
| | CEGR 5184 |
| CEGR 4185 | CEGR 5185 |
| CEGR 4222 | CEGR 5222 |
| CEGR 4223 | CEGR 5223 |
| CEGR 4224 | CEGR 5224 |
| CEGR 4226 | CEGR 5226 |
| CEGR 4242 | CEGR 5242 |
| CEGR 4246 | CEGR 5246 |
| CEGR 4247 | CEGR 5247 |
| CEGR 4262 | CEGR 5262 |
| CEGR 4264 | CEGR 5264 |
| CEGR 4270 | CEGR 5270 |
| CEGR 4271 | CEGR 5271 |
| CEGR 4272 | CEGR 5272 |
| | CEGR 5273 |
| CEGR 4278 | CEGR 5278 |

| *Civil Engineering Technical Elective Courses* | |
|---|---|
| **Undergraduate Course** | **Graduate Substitution** |
| CEGR 4090 | CEGR 5090 |
| CEGR 4108 | CEGR 5108 |
| CEGR 4122 | CEGR 5122 |
| CEGR 4142 | CEGR 5142 |
| CEGR 4144 | CEGR 5144 |
| CEGR 4145 | CEGR 5145 |
| CEGR 4146 | CEGR 5146 |
| CEGR 4147 | CEGR 5147 |
| CEGR 4149 | CEGR 5149 |
| CEGR 4153 | CEGR 5153 |
| CEGR 4161 | CEGR 5161 |
| CEGR 4162 | CEGR 5162 |
| CEGR 4168 | CEGR 5168 |
| CEGR 4171 | CEGR 5171 |
| CEGR 4181 | CEGR 5181 |
| CEGR 4182 | CEGR 5182 |
| | CEGR 5184 |
| CEGR 4185 | CEGR 5185 |
| CEGR 4222 | CEGR 5222 |
| CEGR 4223 | CEGR 5223 |
| CEGR 4224 | CEGR 5224 |
| CEGR 4226 | CEGR 5226 |
| CEGR 4242 | CEGR 5242 |
| CEGR 4246 | CEGR 5246 |
| CEGR 4247 | CEGR 5247 |
| CEGR 4262 | CEGR 5262 |
| CEGR 4264 | CEGR 5264 |
| CEGR 4270 | CEGR 5270 |
| CEGR 4271 | CEGR 5271 |
| CEGR 4272 | CEGR 5272 |
| | CEGR 5273 |
| CEGR 4278 | CEGR 5278 |

## Accelerated Master's Program

### *(for High School Seniors and UNC Charlotte Undergraduate First-Year Students)*

Academically talented high school Seniors and UNC Charlotte undergraduate First-Year students are encouraged to apply to an Accelerated Master's Program to begin work toward both undergraduate and graduate degrees in their first year.

### Admission Requirements

- See University Admission Requirements
- Minimum high school GPA of 3.75 (on a 4.00 scale)
- Minimum score of 1220 on the new SAT
- Online application for graduate admission
- Enrollment will be based on program capacity, and certain programs may have more stringent admission policies.

### Progression Requirements

Students must maintain a strong academic record at both the undergraduate and graduate levels with a cumulative undergraduate GPA of 3.20 or higher and a cumulative graduate GPA of 3.00 or higher. Students accepted into the Accelerated Master's program are subject to the same policies that pertain to other matriculated graduate students.

### Special Policies or Requirements

Up to 9 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 9 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on the Accelerated Master's Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/accelerated-masters.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# Department of Electrical and Computer Engineering

**ece.charlotte.edu**

## Undergraduate Programs

- B.S. in Computer Engineering (BSCpE)
  - Machine Learning
- B.S. in Electrical Engineering (BSEE)
  - Machine Learning
  - Power and Energy Systems
- B.S. in Electrical Engineering and B.A. in Physics Dual Degree
- Minor in Computer Engineering
- Minor in Electrical Engineering
- Early Entry: M.S. in Computer Engineering
- Early Entry: M.S. or Ph.D. in Electrical Engineering

The Department of Electrical and Computer Engineering (ECE) provides instruction and research in a wide range of areas that involve electronic devices, electrical systems, computer technology, and signal processing.

ECE majors include a common set of foundational courses to build basic math, science and engineering skills. Students gain experience through hands-on laboratory and design courses culminating in a Senior project that combines both theory and design.

Outstanding undergraduate students can also pursue graduate course credit through the Early-Entry graduate programs. The ECE M.S. and Ph.D. graduate programs are designed for graduates and professionals who wish to enhance their knowledge of a specialized body of theoretical and applied topics in ECE. These programs provide advanced knowledge and research experience in a chosen area of electrical and computer engineering.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

## Degree Programs

Electrical and Computer Engineering students can pursue the following degrees:

- Bachelor of Science in Electrical Engineering (B.S.E.E.)
- Bachelor of Science in Computer Engineering (B.S.CP.E.)
- Master of Science in Electrical Engineering (M.S.E.E.)
- Master of Science in Computer Engineering (M.S.CP.E.)
- Doctor of Philosophy in Electrical Engineering (Ph.D.)

Undergraduate students can focus on specific elective coursework to gain concentrations in Machine Learning (B.S.E.E. and B.S.CP.E.) and Power and Energy Systems (B.S.E.E. only). Undergraduates interested in post-graduate studies can qualify for the accelerated early-entry M.S. degree program. Early-entry students gain access to graduate courses during their undergraduate education whose credits double-count towards both B.S. and M.S. degrees.

Special curricula are provided for three multi-disciplinary double-major and dual-degree programs:

- Double-Major: Electrical Engineering and Computer Engineering
- Dual Degree: Electrical Engineering and Physics

Students following the curricula for these programs can graduate in only one additional semester of coursework.

## Accreditation

The programs in Electrical and Computer Engineering are accredited by the Engineering Accreditation Commission of ABET, www.abet.org.

## B.S.CP.E./B.S.E.E. Program Educational Objectives

Our graduates are expected to achieve:

1) Successful careers in industry and/or success in post-baccalaureate studies as evidenced by:
   - Being valuable contributors to their employers
   - Career satisfaction
   - Professional visibility through publications, presentations, recognitions, and awards
   - Promotions in their chosen professions
   - Advanced degrees earned

2) Abilities that contribute to the betterment of society and the world as evidenced by:
   - Good citizenship by engaging in engineering practice that values integrity and ethical conduct
   - Useful inventions
   - Entrepreneurial activities
   - Active involvement in the education of others, locally or globally

## B.S.CP.E./B.S.E.E. Student Outcomes

The B.S. in Computer Engineering and B.S. in Electrical Engineering programs have documented student outcomes that support the program educational objectives. Attainment of these outcomes prepares graduates to enter the professional practice of engineering. These student outcomes are evidenced by the ability to:

1. Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. Communicate effectively with a range of audiences.
4. Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. Acquire and apply new knowledge as needed, using appropriate. learning strategies.

# Computer Engineering

## Bachelor of Science in Computer Engineering (B.S.CP.E.)

A Major in Computer Engineering leading to the B.S.CP.E. degree consists of 120 credit hours.

The Bachelor of Science in Computer Engineering (B.S.CP.E.) degree covers fundamental concepts that are essential for the understanding of computer systems and its applications.

Emphasis is placed on the utilization of computers throughout the curriculum. Graduates have a wide range of job opportunities as communication engineers, digital design engineers, test engineers, embedded system developers, network engineers, project engineers, robotic system engineers, application engineers, medical product engineers, and process engineers

### Admission Requirements

#### First-Year Students

First-year admission is competitive, based upon an overall evaluation of the high school record, with particular emphasis on advanced courses in math and science. See University Admission Requirements for a detailed description of the criteria.

First-Year students may either select a major at the time of their application or may choose to be Engineering-undeclared. All First-Year College of Engineering students will take a common set of courses called the Common First Year. Towards the end of their first year, having completed all progression requirements, students will declare or confirm their Engineering Major for the second through fourth years. This selection may be the major they initially indicated or any other engineering major for which they meet the progression requirements.

#### Transfers

All transfer students will be evaluated for placement into a departmental Program or the Common First Year program based on the evaluation of their transfer credits (consistent with the North Carolina articulation agreements).

- See University Admission Requirements
- Minimum GPA: 2.50 (2.80 for Mechanical Engineering)
- Pre-Major/Prerequisite Courses:
  - Engineering Programs: Calculus I course (equivalent to MATH 1241), with a grade of C or above
  - Engineering Technology Programs: Pre-calculus course (equivalent to MATH 1103) or higher, with a grade of C or above
- Transferable Credit Hours: Minimum of 24

Transfers from an ABET-accredited engineering program who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

#### Currently Enrolled Students

#### Internal Change of Major

Internal change of majors within the College of Engineering must have a minimum GPA of 2.50 (2.80 for Mechanical Engineering). Students who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

#### Change of Major Into a Program in the College of Engineering

First-time college students who seek eligibility for a change of major from a non-engineering major into an engineering program are required to:

- Complete the First-Year Curriculum.
- Have no more than two attempts per course, including withdrawing from a course with a grade of W.
- Achieve an overall GPA of 2.50 (2.80 for Mechanical Engineering).

#### Students Seeking Eligibility for a Change of Major

- Should continue to be advised by their current advisor.
- Should focus on successfully completing courses that count towards the program of interest and not rely on grades in unrelated courses to elevate the GPA.
- Are not permitted to enroll in Sophomore engineering courses. May request authorization to enroll in ENGR 1300, ENGR 1301, ENGR 1302 or ENGR 1303 via a request to the College of Engineering Advising department at osds-advising@charlotte.edu.

#### Transfers Seeking Eligibility for a Change of Major

Students who transfer to Charlotte into a non-engineering major and have not met the Transfer Requirements for a given engineering program are not guaranteed to be considered for a change of major. Representatives of the program of interest make decisions on a student's eligibility to pursue a change of major based on a holistic review of a student's entire academic record, including grades earned at other institutions. A record of unsuccessful attempts in courses will weigh negatively on such decisions. If transfer students are allowed to pursue

eligibility for a change of major to a given program, they will be required to:

- Complete the Common First-Year Curriculum.
- Have no more than two attempts per course including withdrawing from a course with a grade of W.
- Achieve an overall GPA of 2.50 (2.80 for Mechanical Engineering).
- Complete at least 12 credits of courses at Charlotte, including at least four courses in math, science and/or engineering.

## Common First-Year Curriculum (CFY)

The College of Engineering uses a Common First-Year Curriculum (CFY) for all Engineering students in order to:

- Provide a strong academic base of foundational knowledge and skills
- Facilitate changing majors within the first year
- Support students with lower math placement and increase access to all majors
- Allow students to explore different majors before committing
- Enhance learning with innovative pedagogies and activities

### Common First-Year Courses

All new first-year students are initially advised by a central office within the W.S. Lee College of Engineering. Students must complete the following classes that are common to all majors of the college (except Construction Management and Fire and Safety Engineering Technology) in order to progress and matriculate to their major department. *All First-Year Curriculum courses require a grade of C or better.*

ENGR 1300 Exploring Engineering & Technology with Success (2)
ENGR 1301 Foundations of Math and Science for Engineering (3)
ENGR 1302 Logic and Computational Problem Solving (3)
ENGR 1303 Engineering Visualization and Graphical Communication (3)
PHYS 2101 (3)
PHYS 2101L (1)
Two MATH courses: MATH 1103* or MATH 1241* or MATH 1242* (3 each)
*See Notes 1 and 2 below*

* All students should consult their advisor to select the math courses that match their planned major.

### *Note 1*

Progression into Civil Engineering, Computer Engineering, Construction Engineering, Electrical Engineering, Environmental Engineering, Mechanical Engineering, and Systems Engineering Major Courses after completing the Common First Year Curriculum requires that students also complete MATH 1241, MATH 1242, PHYS 2101, and PHYS 2101L.

### *Note 2*

Progression into Civil Engineering Technology, Electromechanical Engineering Technology, and Mechanical Engineering Technology Major Courses after completing the Common First Year Curriculum requires that students complete MATH 1241, PHYS 2101, and PHYS 2101L with a C or better (except for Electromechanical Engineering Technology).

### *Note 3*

Students must earn at least a 2.0 GPA in the first semester to continue into the second semester.

## Degree Requirements

### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

### First-Year Courses (21 credit hours)

See Common First-Year Curriculum (CFY) for details.

### Major Courses (47 credit hours)

ECGR 2105 - Computer Programming (3)
ECGR 2111 - Network Theory I (3)
ECGR 2112 - Network Theory II (3)
ECGR 2112L - Networks Laboratory (1)
ECGR 2181 - Logic Systems Design (3)
ECGR 2181L - Logic System Design Laboratory (1)
ECGR 2254 - Analytical Foundations of Electrical and Computer Engineering (3)
ECGR 3101 - Embedded Systems (3)
ECGR 3105 - Introduction to Machine Learning (3)
ECGR 3101L - Embedded Systems Laboratory (1)
ECGR 3111 - Signals and Systems (3)
ECGR 3123 - Data Communications and Networking (3)
ECGR 3130 - Fundamentals of Electronics and Semiconductors (3)
ECGR 3130L - Electronics Laboratory (1)
ECGR 3157 - ECE Junior Design (3)
ECGR 3180 - Data Structures and Algorithms in C++ (3)
ECGR 3183 - Computer Organization (3)
ECGR 4251 - Computer Engineering Senior Design I (2)
ECGR 4252 - Computer Engineering Senior Design II (2)

### Related Courses (16 credit hours)

ENGR 3295 - Multidisciplinary Professional Development (1)
MATH 2165 - Introduction to Discrete Structures (3)
MATH 2164 - Matrices and Linear Algebra (3)
MATH 2171 - Differential Equations (3)
PHYS 2102 - Physics for Science and Engineering II (3)
*Either:*
STAT 2122 - Introduction to Probability and Statistics (3)
or STAT 3128 - Probability and Statistics for Engineers (3)

### Technical Elective Courses (18 credit hours)

1) Select **five** ECGR 4000-level courses that are not required as part of the curriculum.

2) The remaining one technical elective course may be chosen from any of the following that are not part of the degree requirements:

CEGR 3000-level courses
CEGR 4000-level courses
ECGR 3000-level courses
ECGR 4000-level courses
ITCS 3000-level courses
ITCS 4000-level courses
MATH 3000-level courses
MATH 4000-level courses
MEGR 3000-level courses
MEGR 4000-level courses

PHYS 3000-level courses
PHYS 4000-level courses
SEGR 3000-level courses
SEGR 4000-level courses

*Or any of these specific courses can be used for the one technical elective course:*
ITSC 3146 Introduction to Operating Systems and Networking
ITSC 3155 Software Engineering
MATH 2241 Calculus III

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements
After completing the Common First Year Curriculum (CFY) courses, students will decide on their engineering major for their second through fourth years, which may be the major they initially indicated or any other engineering major. Students must meet the following requirements in order to register for major courses:

**Engineering Majors**
Engineering majors must complete all of the requirements below before enrolling in W.S. Lee College of Engineering sophomore-year engineering courses.
- Pass all courses within two attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1242, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.5 cumulative GPA upon completion of the Common First Year Curriculum courses (2.80 for Mechanical Engineering majors)

**Engineering Technology and Construction Management Majors**
**Civil Engineering Technology**
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Electromechanical Engineering Technology**
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241 with grade of C or above and PHYS 2101 and PHYS 2101L
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Mechanical Engineering Technology**
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.2 cumulative GPA upon completion of the Common First Year Courses

**Construction Management**
- Complete CMET 1400, ETCE 1222, ETCE 1211L, and MATH 1103
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Fire & Safety)**
- Complete ETFS 1152, ETFS 1201, ETFS 1220, ETFS 1244, and MATH 1100
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Occupational Safety)**
- Complete BIOL 1110, ETFS 1201, ETFS 1220, ETGR 2230, MATH 1103, PSYC 1101 and STAT 1220
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

# Bachelor of Science in Computer Engineering (B.S.CP.E.) *with Concentration in Machine Learning*
The Bachelor of Science in Computer Engineering (B.S.CP.E.) with Concentration in Machine Learning is intended for students interested in extra training in topics related to the theory, design, and synthesis of intelligent machines with an emphasis on design of machines capable of autonomously learning rules that enable these machines to adapt their behavior from observed measurements. The plan of study for the B.S.CP.E. with Concentration in Machine Learning is similar to the B.S.CP.E. plan of study with the following primary exception:

Students pursuing the B.S.CP.E. with Concentration in Machine Learning are required to enroll in approved Machine Learning Technical Electives, usually during the Junior and Senior year, to complete their degree requirements.

Through careful course selection and scheduling, students can obtain the Concentration in Machine Learning within the required 120 credit hour B.S.CP.E. curriculum. Students completing the requirements described

in this program receive a special designation on their transcripts showing they have completed the Concentration in Machine Learning.

## Admission Requirements

### First-Year Students

First-year admission is competitive, based upon an overall evaluation of the high school record, with particular emphasis on advanced courses in math and science. See University Admission Requirements for a detailed description of the criteria.

First-Year students may either select a major at the time of their application or may choose to be Engineering-undeclared. All First-Year College of Engineering students will take a common set of courses called the Common First Year. Towards the end of their first year, having completed all progression requirements, students will declare or confirm their Engineering Major for the second through fourth years. This selection may be the major they initially indicated or any other engineering major for which they meet the progression requirements.

### Transfers

All transfer students will be evaluated for placement into a departmental Program or the Common First Year program based on the evaluation of their transfer credits (consistent with the North Carolina articulation agreements).

- See University Admission Requirements
- Minimum GPA: 2.50 (2.80 for Mechanical Engineering)
- Pre-Major/Prerequisite Courses:
  - Engineering Programs: Calculus I course (equivalent to MATH 1241), with a grade of C or above
  - Engineering Technology Programs: Pre-calculus course (equivalent to MATH 1103) or higher, with a grade of C or above
- Transferable Credit Hours: Minimum of 24

Transfers from an ABET-accredited engineering program who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

### Currently Enrolled Students

In order to remain in the concentration, students must maintain a minimum (overall and program) GPA of 2.50. A GPA in the major and overall GPA of 2.50 or above is also required to graduate.

### Internal Change of Major

Internal change of majors within the College of Engineering must have a minimum GPA of 2.50 (2.80 for Mechanical Engineering). Students who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

### Change of Major Into a Program in the College of Engineering

First-time college students who seek eligibility for a change of major from a non-engineering major into an engineering program are required to:

- Complete the First-Year Curriculum.
- Have no more than two attempts per course, including withdrawing from a course with a grade of W.
- Achieve an overall GPA of 2.50 (2.80 for Mechanical Engineering).

### Students Seeking Eligibility for a Change of Major

- Should continue to be advised by their current advisor.
- Should focus on successfully completing courses that count towards the program of interest and not rely on grades in unrelated courses to elevate the GPA.
- Are not permitted to enroll in Sophomore engineering courses. May request authorization to enroll in ENGR 1300, ENGR 1301, ENGR 1302 or ENGR 1303 via a request to the College of Engineering Advising department at osds-advising@charlotte.edu.

### Transfers Seeking Eligibility for a Change of Major

Students who transfer to Charlotte into a non-engineering major and have not met the Transfer Requirements for a given engineering program are not guaranteed to be considered for a change of major. Representatives of the program of interest make decisions on a student's eligibility to pursue a change of major based on a holistic review of a student's entire academic record, including grades earned at other institutions. A record of unsuccessful attempts in courses will weigh negatively on such decisions. If transfer students are allowed to pursue eligibility for a change of major to a given program, they will be required to:

- Complete the Common First-Year Curriculum.
- Have no more than two attempts per course including withdrawing from a course with a grade of W.
- Achieve an overall GPA of 2.50 (2.80 for Mechanical Engineering).
- Complete at least 12 credits of courses at Charlotte, including at least four courses in math, science and/or engineering.

## Common First-Year Curriculum (CFY)

The College of Engineering uses a Common First-Year Curriculum (CFY) for all Engineering students in order to:

- Provide a strong academic base of foundational knowledge and skills
- Facilitate changing majors within the first year
- Support students with lower math placement and increase access to all majors
- Allow students to explore different majors before committing
- Enhance learning with innovative pedagogies and activities

### Common First-Year Courses

All new first-year students are initially advised by a central office within the W.S. Lee College of Engineering. Students must complete the following classes that are common to all majors of the college (except Construction Management and Fire and Safety Engineering Technology) in order to progress and matriculate to their major department. *All First-Year Curriculum courses require a grade of C or better.*

ENGR 1300 Exploring Engineering & Technology with Success (2)
ENGR 1301 Foundations of Math and Science for Engineering (3)
ENGR 1302 Logic and Computational Problem Solving (3)
ENGR 1303 Engineering Visualization and Graphical Communication (3)
PHYS 2101 (3)
PHYS 2101L (1)
Two MATH courses: MATH 1103* or MATH 1241* or MATH 1242* (3 each)
*See Notes 1 and 2 below*

* All students should consult their advisor to select the math courses that match their planned major.

***Note 1***
Progression into Civil Engineering, Computer Engineering, Construction Engineering, Electrical Engineering, Environmental Engineering, Mechanical Engineering, and Systems Engineering Major Courses after completing the Common First Year Curriculum requires that students also complete MATH 1241, MATH 1242, PHYS 2101, and PHYS 2101L.

***Note 2***
Progression into Civil Engineering Technology, Electromechanical Engineering Technology, and Mechanical Engineering Technology Major Courses after completing the Common First Year Curriculum requires that students complete MATH 1241, PHYS 2101, and PHYS 2101L with a C or better (except for Electromechanical Engineering Technology).

***Note 3***
Students must earn at least a 2.0 GPA in the first semester to continue into the second semester.

## Degree Requirements

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**First-Year Courses (21 credit hours)**
See Common First-Year Curriculum (CFY) for details.

**Major Courses (44 credit hours)**
ECGR 2105 - Computer Programming (3)
ECGR 2111 - Network Theory I (3)
ECGR 2112 - Network Theory II (3)
ECGR 2112L - Networks Laboratory (1)
ECGR 2181 - Logic Systems Design (3)
ECGR 2181L - Logic System Design Laboratory (1)
ECGR 2254 - Analytical Foundations of Electrical and Computer Engineering (3)
ECGR 3101 - Embedded Systems (3)
ECGR 3101L - Embedded Systems Laboratory (1)
ECGR 3111 - Signals and Systems (3)
ECGR 3123 - Data Communications and Networking (3)
ECGR 3130 - Fundamentals of Electronics and Semiconductors (3)
ECGR 3130L - Electronics Laboratory (1)
ECGR 3157 - ECE Junior Design (3)
ECGR 3180 - Data Structures and Algorithms in C++ (3)
ECGR 3183 - Computer Organization (3)
ECGR 4251 - Computer Engineering Senior Design I (2)
ECGR 4252 - Computer Engineering Senior Design II (2)

**Concentration Courses (9 credit hours)**
***Concentration Required Course (3 credit hours)***
ECGR 3105 - Introduction to Machine Learning (3)
or ECGR 4105 - Introduction to Machine Learning (3)

***Concentration Elective Courses (6 credit hours)***
*Select two of the following:*
ECGR 4103 - Machine Vision, AI and Image Processing (3)
ECGR 4106 - Foundations of Deep Learning (3)
ECGR 4115 - Convex Optimization and AI Applications (3)
ECGR 4116 - Artificial Intelligence for Biomedical Applications (3)
ECGR 4117 - AI for Robotics and Automation (3)
ECGR 4127 - Machine Learning for the Internet of Things (3)
ECGR 4090 - Special Topics in Electrical Engineering (1 to 4*) (requires department approval)*

**Related Courses (16 credit hours)**
ENGR 3295 - Multidisciplinary Professional Development (1)
MATH 2165 - Introduction to Discrete Structures (3)
MATH 2164 - Matrices and Linear Algebra (3)
MATH 2171 - Differential Equations (3)
PHYS 2102 - Physics for Science and Engineering II (3)

*Either:*
STAT 2122 - Introduction to Probability and Statistics (3)
or STAT 3128 - Probability and Statistics for Engineers (3)

**Technical Elective Courses (12 credit hours)**
1) Select **three** additional ECGR 4000-level courses that are not required as a part of the curriculum and have not been used as the Concentration Required Course or as a Concentration Elective Course.

2) Select **one** technical elective course from any of the following that are not part of the degree or concentration requirements:

- CEGR 3000-level courses
- CEGR 4000-level courses
- ECGR 3000-level courses
- ECGR 4000-level courses
- ITCS 3000-level courses
- ITCS 4000-level courses
- MATH 3000-level courses
- MATH 4000-level courses
- MEGR 3000-level courses
- MEGR 4000-level courses
- PHYS 3000-level courses
- PHYS 4000-level courses
- SEGR 3000-level courses
- SEGR 4000-level courses

*Or any of these specific courses can be used for the one technical elective courses:*

- ITSC 3146 Introduction to Operating Systems and Networking
- ITSC 3155 Software Engineering
- MATH 2241 Calculus III

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements

After completing the Common First Year Curriculum (CFY) courses, students will decide on their engineering major for their second through fourth years, which may be the major they initially indicated or any other engineering major. Students must meet the following requirements in order to register for major courses:

**Engineering Majors**
Engineering majors must complete all of the requirements below before enrolling in W.S. Lee College of Engineering sophomore-year engineering courses.

- Pass all courses within two attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1242, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.5 cumulative GPA upon completion of the Common First Year Curriculum courses (2.80 for Mechanical Engineering majors)

**Engineering Technology and Construction Management Majors**
**Civil Engineering Technology**

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Electromechanical Engineering Technology**

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241 with grade of C or above and PHYS 2101 and PHYS 2101L
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Mechanical Engineering Technology**

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.2 cumulative GPA upon completion of the Common First Year Courses

**Construction Management**

- Complete CMET 1400, ETCE 1222, ETCE 1211L, and MATH 1103
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Fire & Safety)**

- Complete ETFS 1152, ETFS 1201, ETFS 1220, ETFS 1244, and MATH 1100
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Occupational Safety)**

- Complete BIOL 1110, ETFS 1201, ETFS 1220, ETGR 2230, MATH 1103, PSYC 1101 and STAT 1220
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

# Minor in Computer Engineering

The Department of Electrical and Computer Engineering offers a Minor in Computer Engineering for non-majors.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

## Prerequisite Courses

The minor assumes that students have a background in mathematics that is covered in the first year of the ECGR curriculum. In mathematics, this would cover Calculus (MATH 1120, MATH 1121, or MATH 1241). The totality of such courses is 3 or more credit hours.

## Minor Requirements

The Minor in Computer Engineering consists of 17 additional credit hours and requires the following:

**Required Courses (14 credit hours)**
ECGR 2105 - Computer Programming (3)
ECGR 2181 - Logic Systems Design (3)
ECGR 2181L - Logic System Design Laboratory (1)
ECGR 3101 - Embedded Systems (3)
ECGR 3101L - Embedded Systems Laboratory (1)
ECGR 3183 - Computer Organization (3)

**Elective Course (3 credit hours)**
*Select at least one of the following*
ECGR 3105 - Introduction to Machine Learning (3)
ECGR 4100 - Research Tools and Techniques in Computer Engineering (3)
ECGR 4101 - Advanced Embedded Systems (3)
ECGR 4105 - Introduction to Machine Learning (3)
ECGR 4106 - Foundations of Deep Learning (3)
ECGR 4146 - Introduction to VHDL (3)
ECGR 4161 - Introduction to Robotics (3)
ECGR 4181 - Computer Architecture (3)

## Minor Total = 17 Credit Hours

### Progression Requirements
Students must achieve a minimum GPA of 2.00 in all courses.

### Special Policies or Requirements
This minor is not available for a student who has a major in either Electrical Engineering or Computer Engineering.

## Early Entry: M.S. in Computer Engineering
Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.20 overall undergraduate GPA
- Minimum 3.20 GPA in the major
- Acceptable scores on the appropriate graduate standardized test (e.g., GRE) *(Students with a 3.25 GPA are eligible to waive the GRE requirement.)*
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

### Progression Requirements
- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.00 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree.

### Special Policies or Requirements
Up to 9 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 9 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions-info/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# Electrical Engineering

## Bachelor of Science in Electrical Engineering (B.S.E.E.)
A Major in Electrical Engineering leading to the B.S.E.E. degree consists of a total of 120 credit hours.

The Bachelor of Science in Electrical Engineering (B.S.E.E.) degree covers fundamental concepts that lead to an understanding of electrical and electronic systems and their applications.

Emphasis is placed on the utilization of computers throughout the curriculum. Graduates have a wide range of job opportunities as power engineers, communication engineers, test engineers, network engineers, control engineers, project engineers, robotic system engineers, optoelectronic engineers, application engineers, analog engineers, medical product engineers, and process engineers

### Admission Requirements
**First-Year Students**
First-year admission is competitive, based upon an overall evaluation of the high school record, with particular emphasis on advanced courses in math and science. See University Admission Requirements for a detailed description of the criteria.

First-Year students may either select a major at the time of their application or may choose to be Engineering-undeclared. All First-Year College of Engineering students will take a common set of courses called the Common First Year. Towards the end of their first year, having completed all progression requirements, students will declare or confirm their Engineering Major for the second through fourth years. This selection may be the major they initially indicated or any other engineering major for which they meet the progression requirements.

**Transfers**
All transfer students will be evaluated for placement into a departmental Program or the Common First Year program based on the evaluation of their transfer credits (consistent with the North Carolina articulation agreements).

- See University Admission Requirements
- Minimum GPA: 2.50 (2.80 for Mechanical Engineering)
- Pre-Major/Prerequisite Courses:
  - Engineering Programs: Calculus I course (equivalent to MATH 1241), with a grade of C or above
  - Engineering Technology Programs: Pre-calculus course (equivalent to MATH 1103) or higher, with a grade of C or above
- Transferable Credit Hours: Minimum of 24

Transfers from an ABET-accredited engineering program who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

**Currently Enrolled Students**
**Internal Change of Major**
Internal change of majors within the College of Engineering must have a minimum GPA of 2.50 (2.80 for Mechanical Engineering). Students who

do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

**Change of Major Into a Program in the College of Engineering**
First-time college students who seek eligibility for a change of major from a non-engineering major into an engineering program are required to:

- Complete the First-Year Curriculum.
- Have no more than two attempts per course, including withdrawing from a course with a grade of W.
- Achieve an overall GPA of 2.50 (2.80 for Mechanical Engineering).

**Students Seeking Eligibility for a Change of Major**
- Should continue to be advised by their current advisor.
- Should focus on successfully completing courses that count towards the program of interest and not rely on grades in unrelated courses to elevate the GPA.
- Are not permitted to enroll in Sophomore engineering courses. May request authorization to enroll in ENGR 1300, ENGR 1301, ENGR 1302 or ENGR 1303 via a request to the College of Engineering Advising department at osds-advising@charlotte.edu.

**Transfers Seeking Eligibility for a Change of Major**
Students who transfer to Charlotte into a non-engineering major and have not met the Transfer Requirements for a given engineering program are not guaranteed to be considered for a change of major. Representatives of the program of interest make decisions on a student's eligibility to pursue a change of major based on a holistic review of a student's entire academic record, including grades earned at other institutions. A record of unsuccessful attempts in courses will weigh negatively on such decisions. If transfer students are allowed to pursue eligibility for a change of major to a given program, they will be required to:

- Complete the Common First-Year Curriculum.
- Have no more than two attempts per course including withdrawing from a course with a grade of W.
- Achieve an overall GPA of 2.50 (2.80 for Mechanical Engineering).
- Complete at least 12 credits of courses at Charlotte, including at least four courses in math, science and/or engineering.

## Common First-Year Curriculum (CFY)
The College of Engineering uses a Common First-Year Curriculum (CFY) for all Engineering students in order to:
- Provide a strong academic base of foundational knowledge and skills
- Facilitate changing majors within the first year
- Support students with lower math placement and increase access to all majors
- Allow students to explore different majors before committing
- Enhance learning with innovative pedagogies and activities

**Common First-Year Courses**
All new first-year students are initially advised by a central office within the W.S. Lee College of Engineering. Students must complete the following classes that are common to all majors of the college (except Construction Management and Fire and Safety Engineering Technology) in order to progress and matriculate to their major department. *All First-Year Curriculum courses require a grade of C or better.*

ENGR 1300 Exploring Engineering & Technology with Success (2)
ENGR 1301 Foundations of Math and Science for Engineering (3)
ENGR 1302 Logic and Computational Problem Solving (3)
ENGR 1303 Engineering Visualization and Graphical Communication (3)
PHYS 2101 (3)
PHYS 2101L (1)
Two MATH courses: MATH 1103* or MATH 1241* or MATH 1242* (3 each)
*See Notes 1 and 2 below*

* All students should consult their advisor to select the math courses that match their planned major.

***Note 1***
Progression into Civil Engineering, Computer Engineering, Construction Engineering, Electrical Engineering, Environmental Engineering, Mechanical Engineering, and Systems Engineering Major Courses after completing the Common First Year Curriculum requires that students also complete MATH 1241, MATH 1242, PHYS 2101, and PHYS 2101L.

***Note 2***
Progression into Civil Engineering Technology, Electromechanical Engineering Technology, and Mechanical Engineering Technology Major Courses after completing the Common First Year Curriculum requires that students complete MATH 1241, PHYS 2101, and PHYS 2101L with a C or better (except for Electromechanical Engineering Technology).

***Note 3***
Students must earn at least a 2.0 GPA in the first semester to continue into the second semester.

## Degree Requirements
**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**First-Year Courses (21 credit hours)**
See Common First-Year Curriculum (CFY) for details.

**Major Courses (44 credit hours)**
ECGR 2105 - Computer Programming (3)
ECGR 2111 - Network Theory I (3)
ECGR 2112 - Network Theory II (3)
ECGR 2112L - Networks Laboratory (1)
ECGR 2181 - Logic Systems Design (3)
ECGR 2181L - Logic System Design Laboratory (1)
ECGR 2254 - Analytical Foundations of Electrical and Computer Engineering (3)
ECGR 3105 - Introduction to Machine Learning (3)
ECGR 3111 - Signals and Systems (3)
ECGR 3112 - System Analysis II (3)
ECGR 3120 - Electromagnetic Fields and Waves (3)
ECGR 3130 - Fundamentals of Electronics and Semiconductors (3)
ECGR 3130L - Electronics Laboratory (1)
ECGR 3142 - Electrical Energy Conversion (3)
ECGR 3142L - Electrical Energy Conversion Laboratory (1)
ECGR 3157 - ECE Junior Design (3)

ECGR 4241 - Electrical Engineering Senior Design I (2)
ECGR 4242 - Electrical Engineering Senior Design II (2)

**Related Courses (19 credit hours)**
ENGR 3295 - Multidisciplinary Professional Development (1)
MATH 2164 - Matrices and Linear Algebra (3)
MATH 2171 - Differential Equations (3)
MATH 2241 - Calculus III (3)
PHYS 2102 - Physics for Science and Engineering II (3)
PHYS 3141 - Introduction to Modern Physics (3)
STAT 3128 - Probability and Statistics for Engineers (3)

**Technical Elective Courses (18 credit hours)**
1) Select **five** ECGR 4000-level courses that are not required as part of the curriculum.
2) Select **one** course from the following that is not already part of the curriculum:

   CEGR 3000-level courses
   CEGR 4000-level courses
   ECGR 3000-level courses
   ECGR 4000-level courses
   ITCS 3000-level courses
   ITCS 4000-level courses
   MATH 3000-level courses
   MATH 4000-level courses
   MEGR 3000-level courses
   MEGR 4000-level courses
   PHYS 3000-level courses
   PHYS 4000-level courses
   SEGR 3000-level courses
   SEGR 4000-level courses

   *Or any of these specific courses can be used for the one technical elective course:*
   ITSC 3146 Introduction to Operating Systems and Networking
   ITSC 3155 Software Engineering

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements
After completing the Common First Year Curriculum (CFY) courses, students will decide on their engineering major for their second through fourth years, which may be the major they initially indicated or any other engineering major. Students must meet the following requirements in order to register for major courses:

**Engineering Majors**
Engineering majors must complete all of the requirements below before enrolling in W.S. Lee College of Engineering sophomore-year engineering courses.

- Pass all courses within two attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1242, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.5 cumulative GPA upon completion of the Common First Year Curriculum courses (2.80 for Mechanical Engineering majors)

**Engineering Technology and Construction Management Majors**
**Civil Engineering Technology**
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Electromechanical Engineering Technology**
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241 with grade of C or above and PHYS 2101 and PHYS 2101L
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Mechanical Engineering Technology**
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.2 cumulative GPA upon completion of the Common First Year Courses

**Construction Management**
- Complete CMET 1400, ETCE 1222, ETCE 1211L, and MATH 1103
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Fire & Safety)**
- Complete ETFS 1152, ETFS 1201, ETFS 1220, ETFS 1244, and MATH 1100
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Occupational Safety)**
- Complete BIOL 1110, ETFS 1201, ETFS 1220, ETGR 2230, MATH 1103, PSYC 1101 and STAT 1220

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

# Bachelor of Science in Electrical Engineering (B.S.E.E.) *with Concentration in Machine Learning*

The Bachelor of Science in Electrical Engineering (B.S.E.E.) with Concentration in Machine Learning is intended for students interested in extra training in topics related to the theory, design and synthesis of intelligent machines with an emphasis on design of machines capable of autonomously learning rules that enable these machines to adapt their behavior from observed measurements. The plan of study for the B.S.E.E. with Concentration in Machine Learning is similar to the BSEE plan of study with the following primary exception:

Students pursuing the B.S.E.E. with Concentration in Machine Learning are required to enroll in approved Machine Learning Technical Electives, usually during the Junior and Senior year, to complete their degree requirements.

Through careful course selection and scheduling, students can obtain the Concentration in Machine Learning within the required 120 credit hour B.S.E.E. curriculum. Students completing the requirements described in this program receive a special designation on their transcripts showing they have completed the Concentration in Machine Learning.

## Admission Requirements

### First-Year Students

First-year admission is competitive, based upon an overall evaluation of the high school record, with particular emphasis on advanced courses in math and science. See University Admission Requirements for a detailed description of the criteria.

First-Year students may either select a major at the time of their application or may choose to be Engineering-undeclared. All First-Year College of Engineering students will take a common set of courses called the Common First Year. Towards the end of their first year, having completed all progression requirements, students will declare or confirm their Engineering Major for the second through fourth years. This selection may be the major they initially indicated or any other engineering major for which they meet the progression requirements.

### Transfers

All transfer students will be evaluated for placement into a departmental Program or the Common First Year program based on the evaluation of their transfer credits (consistent with the North Carolina articulation agreements).

- See University Admission Requirements
- Minimum GPA: 2.50 (2.80 for Mechanical Engineering)
- Pre-Major/Prerequisite Courses:
  - Engineering Programs: Calculus I course (equivalent to MATH 1241), with a grade of C or above
  - Engineering Technology Programs: Pre-calculus course (equivalent to MATH 1103) or higher, with a grade of C or above
- Transferable Credit Hours: Minimum of 24

Transfers from an ABET-accredited engineering program who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

### Currently Enrolled Students

In order to remain in the concentration, students must maintain a minimum (overall and program) GPA of 2.50. A GPA in the major and overall GPA of 2.50 or above is also required to graduate.

### Internal Change of Major

Internal change of majors within the College of Engineering must have a minimum GPA of 2.50 (2.80 for Mechanical Engineering). Students who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

### Change of Major Into a Program in the College of Engineering

First-time college students who seek eligibility for a change of major from a non-engineering major into an engineering program are required to:

- Complete the First-Year Curriculum.
- Have no more than two attempts per course, including withdrawing from a course with a grade of W.
- Achieve an overall GPA of 2.50 (2.80 for Mechanical Engineering).

### Students Seeking Eligibility for a Change of Major

- Should continue to be advised by their current advisor.
- Should focus on successfully completing courses that count towards the program of interest and not rely on grades in unrelated courses to elevate the GPA.
- Are not permitted to enroll in Sophomore engineering courses. May request authorization to enroll in ENGR 1300, ENGR 1301, ENGR 1302 or ENGR 1303 via a request to the College of Engineering Advising department at osds-advising@charlotte.edu.

### Transfers Seeking Eligibility for a Change of Major

Students who transfer to Charlotte into a non-engineering major and have not met the Transfer Requirements for a given engineering program are not guaranteed to be considered for a change of major. Representatives of the program of interest make decisions on a student's eligibility to pursue a change of major based on a holistic review of a student's entire academic record, including grades earned at other institutions. A record of unsuccessful attempts in courses will weigh negatively on such decisions. If transfer students are allowed to pursue eligibility for a change of major to a given program, they will be required to:

- Complete the Common First-Year Curriculum.
- Have no more than two attempts per course including withdrawing from a course with a grade of W.
- Achieve an overall GPA of 2.50 (2.80 for Mechanical Engineering).
- Complete at least 12 credits of courses at Charlotte, including at least four courses in math, science and/or engineering.

## Common First-Year Curriculum (CFY)

The College of Engineering uses a Common First-Year Curriculum (CFY) for all Engineering students in order to:

- Provide a strong academic base of foundational knowledge and skills
- Facilitate changing majors within the first year
- Support students with lower math placement and increase access to all majors
- Allow students to explore different majors before committing
- Enhance learning with innovative pedagogies and activities

### Common First-Year Courses

All new first-year students are initially advised by a central office within the W.S. Lee College of Engineering. Students must complete the following classes that are common to all majors of the college (except Construction Management and Fire and Safety Engineering Technology) in order to progress and matriculate to their major department. *All First-Year Curriculum courses require a grade of C or better.*

ENGR 1300 Exploring Engineering & Technology with Success (2)
ENGR 1301 Foundations of Math and Science for Engineering (3)
ENGR 1302 Logic and Computational Problem Solving (3)
ENGR 1303 Engineering Visualization and Graphical Communication (3)
PHYS 2101 (3)
PHYS 2101L (1)
Two MATH courses: MATH 1103* or MATH 1241* or MATH 1242* (3 each)
*See Notes 1 and 2 below*

* All students should consult their advisor to select the math courses that match their planned major.

#### *Note 1*

Progression into Civil Engineering, Computer Engineering, Construction Engineering, Electrical Engineering, Environmental Engineering, Mechanical Engineering, and Systems Engineering Major Courses after completing the Common First Year Curriculum requires that students also complete MATH 1241, MATH 1242, PHYS 2101, and PHYS 2101L.

#### *Note 2*

Progression into Civil Engineering Technology, Electromechanical Engineering Technology, and Mechanical Engineering Technology Major Courses after completing the Common First Year Curriculum requires that students complete MATH 1241, PHYS 2101, and PHYS 2101L with a C or better (except for Electromechanical Engineering Technology).

#### *Note 3*

Students must earn at least a 2.0 GPA in the first semester to continue into the second semester.

## Degree Requirements

### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

### First-Year Courses (21 credit hours)

See Common First-Year Curriculum (CFY) for details.

### Major Courses (41 credit hours)

ECGR 2105 - Computer Programming (3)
ECGR 2111 - Network Theory I (3)
ECGR 2112 - Network Theory II (3)
ECGR 2112L - Networks Laboratory (1)
ECGR 2181 - Logic Systems Design (3)
ECGR 2181L - Logic System Design Laboratory (1)
ECGR 2254 - Analytical Foundations of Electrical and Computer Engineering (3)
ECGR 3111 - Signals and Systems (3)
ECGR 3112 - System Analysis II (3)
ECGR 3120 - Electromagnetic Fields and Waves (3)
ECGR 3130 - Fundamentals of Electronics and Semiconductors (3)
ECGR 3130L - Electronics Laboratory (1)
ECGR 3142 - Electrical Energy Conversion (3)
ECGR 3142L - Electrical Energy Conversion Laboratory (1)
ECGR 3157 - ECE Junior Design (3)
ECGR 4241 - Electrical Engineering Senior Design I (2)
ECGR 4242 - Electrical Engineering Senior Design II (2)

### Concentration Courses (9 credit hours)

***Concentration Required Course (3 credit hours)***

ECGR 3105 - Introduction to Machine Learning (3)
or ECGR 4105 – Introduction to Machine Learning (3)

***Concentration Elective Courses (6 credit hours)***

*Select two of the following:*
ECGR 4103 - Machine Vision, AI and Image Processing (3)
ECGR 4106 - Foundations of Deep Learning (3)
ECGR 4115 - Convex Optimization and AI Applications (3)
ECGR 4116 - Artificial Intelligence for Biomedical Applications (3)
ECGR 4117 - AI for Robotics and Automation (3)
ECGR 4127 - Machine Learning for the Internet of Things (3)
ECGR 4090 - Special Topics in Electrical Engineering (1 to 4) *(requires department approval)*

### Related Courses (19 credit hours)

ENGR 3295 - Multidisciplinary Professional Development (1)
MATH 2164 - Matrices and Linear Algebra (3)
MATH 2171 - Differential Equations (3)
MATH 2241 - Calculus III (3)
PHYS 2102 - Physics for Science and Engineering II (3)
PHYS 3141 - Introduction to Modern Physics (3)
STAT 3128 - Probability and Statistics for Engineers (3)

### Technical Elective Courses (12 credit hours)

1. Select **two** additional ECGR 4000-level courses that are not required as part of the curriculum and have not been used as the Concentration Required Course or as a Concentration Elective Course.
2. Select **two** technical elective courses from any of the following that are not part of the degree or concentration requirements:

   CEGR 3000-level courses
   CEGR 4000-level courses
   ECGR 3000-level courses
   ECGR 4000-level courses
   ITCS 3000-level courses
   ITCS 4000-level courses

MATH 3000-level courses
MATH 3000-level courses
MEGR 3000-level courses
MEGR 4000-level courses
PHYS 3000-level courses
PHYS 4000-level courses
SEGR 3000-level courses
SEGR 4000-level courses

*Or any of these specific courses can be used for the two technical elective courses:*
ITSC 3146 Introduction to Operating Systems and Networking
ITSC 3155 Software Engineering

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements
After completing the Common First Year Curriculum (CFY) courses, students will decide on their engineering major for their second through fourth years, which may be the major they initially indicated or any other engineering major. Students must meet the following requirements in order to register for major courses:

**Engineering Majors**
Engineering majors must complete all of the requirements below before enrolling in W.S. Lee College of Engineering sophomore-year engineering courses.
- Pass all courses within two attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1242, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.5 cumulative GPA upon completion of the Common First Year Curriculum courses (2.80 for Mechanical Engineering majors)

**Engineering Technology and Construction Management Majors**
**Civil Engineering Technology**
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Electromechanical Engineering Technology**
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241 with grade of C or above and PHYS 2101 and PHYS 2101L
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Mechanical Engineering Technology**
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.2 cumulative GPA upon completion of the Common First Year Courses

**Construction Management**
- Complete CMET 1400, ETCE 1222, ETCE 1211L, and MATH 1103
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Fire & Safety)**
- Complete ETFS 1152, ETFS 1201, ETFS 1220, ETFS 1244, and MATH 1100
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Occupational Safety)**
- Complete BIOL 1110, ETFS 1201, ETFS 1220, ETGR 2230, MATH 1103, PSYC 1101 and STAT 1220
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

# Bachelor of Science in Electrical Engineering (B.S.E.E.) *with Concentration in Power and Energy Systems*
Students pursuing the Bachelor of Science in Electrical Engineering (BSEE) degree may choose to add a Concentration in Power and Energy Systems. The plan of study for the BSEE with a Concentration in Power and Energy Systems is similar to the BSEE plan of study with three primary exceptions:

1) All BSEE students are required to complete Technical Elective courses, usually during the Junior and Senior year. Students pursuing the BSEE with a Concentration in Power and Energy Systems are required to enroll in approved Power and Energy Technical Electives only. *See required courses below.*
2) During the Senior year, Power and Energy Systems Concentration

students must complete an intensive, two-semester energy-related Senior design project.

3) Students in the concentration are strongly encouraged to take the Fundamentals of Engineering (FE) exam prior to graduation.

## Admission Requirements

### First-Year Students

First-year admission is competitive, based upon an overall evaluation of the high school record, with particular emphasis on advanced courses in math and science. See University Admission Requirements for a detailed description of the criteria.

First-Year students may either select a major at the time of their application or may choose to be Engineering-undeclared. All First-Year College of Engineering students will take a common set of courses called the Common First Year. Towards the end of their first year, having completed all progression requirements, students will declare or confirm their Engineering Major for the second through fourth years. This selection may be the major they initially indicated or any other engineering major for which they meet the progression requirements.

### Transfers

All transfer students will be evaluated for placement into a departmental Program or the Common First Year program based on the evaluation of their transfer credits (consistent with the North Carolina articulation agreements).

- See University Admission Requirements
- Minimum GPA: 2.50 (2.80 for Mechanical Engineering)
- Pre-Major/Prerequisite Courses:
  - Engineering Programs: Calculus I course (equivalent to MATH 1241), with a grade of C or above
  - Engineering Technology Programs: Pre-calculus course (equivalent to MATH 1103) or higher, with a grade of C or above
- Transferable Credit Hours: Minimum of 24

Transfers from an ABET-accredited engineering program who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

### Currently Enrolled Students

Students must apply for admission and may enter the Concentration in Power and Energy Systems program after successfully completing the first-year engineering curriculum. Additionally, an overall GPA of 2.50 is required for admission into the Concentration in Power and Energy Systems.

### Internal Change of Major

Internal change of majors within the College of Engineering must have a minimum GPA of 2.50 (2.80 for Mechanical Engineering). Students who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

### Change of Major Into a Program in the College of Engineering

First-time college students who seek eligibility for a change of major from a non-engineering major into an engineering program are required to:

- Complete the First-Year Curriculum.
- Have no more than two attempts per course, including withdrawing from a course with a grade of W.
- Achieve an overall GPA of 2.50 (2.80 for Mechanical Engineering).

### Students Seeking Eligibility for a Change of Major

- Should continue to be advised by their current advisor.
- Should focus on successfully completing courses that count towards the program of interest and not rely on grades in unrelated courses to elevate the GPA.
- Are not permitted to enroll in Sophomore engineering courses. May request authorization to enroll in ENGR 1300, ENGR 1301, ENGR 1302 or ENGR 1303 via a request to the College of Engineering Advising department at osds-advising@charlotte.edu.

### Transfers Seeking Eligibility for a Change of Major

Students who transfer to Charlotte into a non-engineering major and have not met the Transfer Requirements for a given engineering program are not guaranteed to be considered for a change of major. Representatives of the program of interest make decisions on a student's eligibility to pursue a change of major based on a holistic review of a student's entire academic record, including grades earned at other institutions. A record of unsuccessful attempts in courses will weigh negatively on such decisions. If transfer students are allowed to pursue eligibility for a change of major to a given program, they will be required to:

- Complete the Common First-Year Curriculum.
- Have no more than two attempts per course including withdrawing from a course with a grade of W.
- Achieve an overall GPA of 2.50 (2.80 for Mechanical Engineering).
- Complete at least 12 credits of courses at Charlotte, including at least four courses in math, science and/or engineering.

## Common First-Year Curriculum (CFY)

The College of Engineering uses a Common First-Year Curriculum (CFY) for all Engineering students in order to:

- Provide a strong academic base of foundational knowledge and skills
- Facilitate changing majors within the first year
- Support students with lower math placement and increase access to all majors
- Allow students to explore different majors before committing
- Enhance learning with innovative pedagogies and activities

### Common First-Year Courses

All new first-year students are initially advised by a central office within the W.S. Lee College of Engineering. Students must complete the following classes that are common to all majors of the college (except Construction Management and Fire and Safety Engineering Technology) in order to progress and matriculate to their major department. *All First-Year Curriculum courses require a grade of C or better.*

ENGR 1300 Exploring Engineering & Technology with Success (2)
ENGR 1301 Foundations of Math and Science for Engineering (3)
ENGR 1302 Logic and Computational Problem Solving (3)
ENGR 1303 Engineering Visualization and Graphical Communication (3)
PHYS 2101 (3)
PHYS 2101L (1)
Two MATH courses: MATH 1103* or MATH 1241* or MATH 1242* (3 each)

*See Notes 1 and 2 below*

* All students should consult their advisor to select the math courses that match their planned major.

***Note 1***

Progression into Civil Engineering, Computer Engineering, Construction Engineering, Electrical Engineering, Environmental Engineering, Mechanical Engineering, and Systems Engineering Major Courses after completing the Common First Year Curriculum requires that students also complete MATH 1241, MATH 1242, PHYS 2101, and PHYS 2101L.

***Note 2***

Progression into Civil Engineering Technology, Electromechanical Engineering Technology, and Mechanical Engineering Technology Major Courses after completing the Common First Year Curriculum requires that students complete MATH 1241, PHYS 2101, and PHYS 2101L with a C or better (except for Electromechanical Engineering Technology).

***Note 3***

Students must earn at least a 2.0 GPA in the first semester to continue into the second semester.

## Degree Requirements

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**First-Year Courses (21 credit hours)**

See Common First-Year Curriculum (CFY) for details.

**Major Courses (44 credit hours)**

ECGR 2105 - Computer Programming (3)
ECGR 2111 - Network Theory I (3)
ECGR 2112 - Network Theory II (3)
ECGR 2112L - Networks Laboratory (1)
ECGR 2181 - Logic Systems Design (3)
ECGR 2181L - Logic System Design Laboratory (1)
ECGR 2254 - Analytical Foundations of Electrical and Computer Engineering (3)
ECGR 3105 - Introduction to Machine Learning (3)
ECGR 3111 - Signals and Systems (3)
ECGR 3112 - System Analysis II (3)
ECGR 3120 - Electromagnetic Fields and Waves (3)
ECGR 3130 - Fundamentals of Electronics and Semiconductors (3)
ECGR 3130L - Electronics Laboratory (1)
ECGR 3142 - Electrical Energy Conversion (3)
ECGR 3142L - Electrical Energy Conversion Laboratory (1)
ECGR 3157 - ECE Junior Design (3)
ECGR 4241 - Electrical Engineering Senior Design I (2)
ECGR 4242 - Electrical Engineering Senior Design II (2)

**Concentration Courses (9 credit hours)**

***Concentration Required Course (3 credit hours)***

ECGR 4141 - Power System Analysis I (3)

***Concentration Elective Courses (6 credit hours)***

*Select two of the following:*

ECGR 4090 – Special Topics in Electrical Engineering (1 to 4)*
ECGR 4104 - Computational Methods in Power Systems (3)
ECGR 4111 – Control Systems Theory I (3)
ECGR 4123 - Analog and Digital Communication (3)
ECGR 4142 - Power System Analysis II (3)
ECGR 4143 - Electrical Machinery (3)
ECGR 4144 - Power Electronics I (3)
ECGR 4171 - Introduction to Energy Systems (3)
ECGR 4172 - Energy Markets (3)
ECGR 4190 - Power Generation: Operation and Control (3)
ECGR 4191 - Dynamic and Transient Analysis of Power Systems (3)
ECGR 4290 – Science and Technology of Photovoltaics (3)

** Requires department approval*

**Related Courses (19 credit hours)**

ENGR 3295 - Multidisciplinary Professional Development (1)
MATH 2164 - Matrices and Linear Algebra (3)
MATH 2171 - Differential Equations (3)
MATH 2241 - Calculus III (3)
PHYS 2102 - Physics for Science and Engineering II (3)
PHYS 3141 - Introduction to Modern Physics (3)
STAT 3128 - Probability and Statistics for Engineers (3)

**Technical Elective Courses (9 credit hours)**

1) Select **two** additional ECGR 4000-level courses that are not required as part of the curriculum and have not been used as the Concentration Required Course or as a Concentration Elective Course.

2) Select **one** technical elective course from any of the following that is not part of the degree or concentration requirements:

   CEGR 3000-level courses
   CEGR 4000-level courses
   ECGR 3000-level courses
   ECGR 4000-level courses
   ITCS 3000-level courses
   ITCS 4000-level courses
   MATH 3000-level courses
   MATH 3000-level courses
   MEGR 3000-level courses
   MEGR 4000-level courses
   PHYS 3000-level courses
   PHYS 4000-level courses
   SEGR 3000-level courses
   SEGR 4000-level courses

   *Or any of these specific courses can be used for the one technical elective course:*
   ITSC 3146 Introduction to Operating Systems and Networking
   ITSC 3155 Software Engineering

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied

regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

After completing the Common First Year Curriculum (CFY) courses, students will decide on their engineering major for their second through fourth years, which may be the major they initially indicated or any other engineering major. Students must meet the following requirements in order to register for major courses:

### Engineering Majors

Engineering majors must complete all of the requirements below before enrolling in W.S. Lee College of Engineering sophomore-year engineering courses.

- Pass all courses within two attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1242, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.5 cumulative GPA upon completion of the Common First Year Curriculum courses (2.80 for Mechanical Engineering majors)

### Engineering Technology and Construction Management Majors

#### Civil Engineering Technology

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

#### Electromechanical Engineering Technology

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241 with grade of C or above and PHYS 2101 and PHYS 2101L
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

#### Mechanical Engineering Technology

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.2 cumulative GPA upon completion of the Common First Year Courses

#### Construction Management

- Complete CMET 1400, ETCE 1222, ETCE 1211L, and MATH 1103
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

#### Fire & Safety Engineering Technology (Fire & Safety)

- Complete ETFS 1152, ETFS 1201, ETFS 1220, ETFS 1244, and MATH 1100
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

#### Fire & Safety Engineering Technology (Occupational Safety)

- Complete BIOL 1110, ETFS 1201, ETFS 1220, ETGR 2230, MATH 1103, PSYC 1101 and STAT 1220
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

# Bachelor of Science in Electrical Engineering and Bachelor of Science in Physics Dual Degree

The Department of Physics and Optical Science offers a dual degree opportunities with the Department of Electrical and Computer Engineering. This dual degrees is designed to broaden and enhance the education of students in engineering degree program. Students can obtain a B.A. Physics and B.S. Electrical Engineering dual degree.

## Admission Requirements

### First-Year Students and Transfers

- See University Admission Requirements
- *Minimum GPA:* 2.00 (cumulative and Physics)
- *Pre-Major/Prerequisite Courses:* Complete the following with grades of C or above and no more than 2 attempts per course:
    - PHYS 2101
    - PHYS 2102
    - MATH 2241

## Currently Enrolled Students

- *Declaration of Major:* Engineering majors wishing to declare the B.S. in Physics degree are eligible to do so after meeting the above requirements.

## Degree Requirements

To obtain a dual B.S. degree in Electrical Engineering and Physics, undergraduate students must complete all requirements for the B.S.E.E. degree as established by the Department of Electrical and Computer Engineering. In addition, students must complete 12 credit hours of upper-division PHYS courses specified by the Department of Physics and Optical Science with an average grade of C or above. A B.S. in Physics under this program is awarded at the same time as or after the B.S.E.E.;

the B.S. in Physics degree will not be awarded in advance of the engineering degree.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Pre-Major Courses (14 credit hours)**
ENGR 1201 - Introduction to Engineering Practices and Principles I (2)
ENGR 1202 - Introduction to Engineering Practices and Principles II (2)
MATH 1241 - Calculus I (3)
MATH 1242 - Calculus II (3)
PHYS 2101 - Physics for Science and Engineering I (3)
PHYS 2101L - Physics for Science and Engineering I Lab (1)

**Major Courses (51 credit hours)**
ECGR 2103 - Computer Utilization in C++ (3)
ECGR 2111 - Network Theory I (3)
ECGR 2112 - Network Theory II (3)
ECGR 2155 - Instrumentation and Networks Laboratory (1) *
ECGR 2156 - Logic and Networks Laboratory (1)*
ECGR 2181 - Logic Systems Design (3)
ECGR 2254 - Analytical Foundations of Electrical and Computer Engineering (3)
ECGR 3111 - Signals and Systems (3)
ECGR 3112 - System Analysis II (3)
ECGR 3121 - Introduction to Electromagnetic Fields (3)
ECGR 3122 - Electromagnetic Waves (3)
ECGR 3131 - Fundamentals of Electronics and Semiconductors (3)
ECGR 3132 - Electronics (3)
ECGR 3142 - Electrical Energy Conversion (3)
ECGR 3155 - Systems and Electronics Laboratory (1)*
ECGR 3156 - Electromagnetic and Electronic Devices Laboratory (1)*
ECGR 3157 - ECE Junior Design (3)
ECGR 3159 - Professional Practice (1)
ECGR 4123 - Analog and Digital Communication (3)
or ECGR 4124 - Digital Signal Processing (3)
ECGR 4241 - Electrical Engineering Senior Design I (2)
ECGR 4242 - Electrical Engineering Senior Design II (2)

**The laboratory courses are designed to: (1) teach the basic techniques of instrumentation; (2) develop skills in communications; and (3) relate the analytical methods developed in the classroom to the performance of real physical systems.*

**Related Courses (19 credit hours)**
ENGR 3295 - Multidisciplinary Professional Development (1)
MATH 2164 - Matrices and Linear Algebra (3)
MATH 2171 - Differential Equations (3)
MATH 2241 - Calculus III (3)
PHYS 2102 - Physics for Science and Engineering II (3)
PHYS 3141 - Introduction to Modern Physics (3)
STAT 3128 - Probability and Statistics for Engineers (3)

**Restricted Elective Courses (18 credit hours)**
*Technical Elective Courses (12 credit hours)*
Select four ECGR 4000-level courses that are not required as part of the B.S.E.E. curriculum.

*Elective Courses (6 credit hours)*
Select two courses from the following that are not already part of the B.S.E.E. curriculum. A maximum of one PHYS 3000/4000 level course may be used to satisfy this elective requirement.

CEGR 3000-level courses
CEGR 4000-level courses
ECGR 3000-level courses
ECGR 4000-level courses
ITCS 3000-level courses
ITCS 4000-level courses
MATH 3000-level courses
MATH 4000-level courses
MEGR 3000-level courses
MEGR 4000-level courses
PHYS 3000-level courses
PHYS 4000-level courses
SEGR 3000-level courses
SEGR 4000-level courses

**Physics Courses (12 credit hours)**
***Required Physics Courses (9 credit hours)***
PHYS 3121 - Classical Mechanics I (3)
PHYS 3220 - Mathematical Methods in Physics (3)
PHYS 4241 - Quantum Mechanics I (3)

***Elective Physics Courses (3 credit hours)***
*Select one of the following:*
PHYS 3900 - Undergraduate Research (1 to 3) *(requires permission of Department of Physics and Optical Science)*
PHYS 4110 - Introduction to Biomedical Optics (3)
PHYS 4140 - Nuclear Physics (3)
PHYS 4181 - Solid State Physics (3)
PHYS 4222 - Classical Mechanics II (3)
PHYS 4242 - Quantum Mechanics II (3)
PHYS 4271 - Waves and Optics (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 129-132 credit hours

## Progression Requirements
A GPA of 2.00 or above in PHYS and engineering courses and an overall GPA of 2.00 or above is required. A grade of C or above is required in most PHYS courses before students can progress to the next PHYS course.

# Minor in Electrical Engineering

The Department of Electrical and Computer Engineering offers a Minor in Electrical Engineering (ECGR) for non-ECGR majors.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

See University Admission Requirements

## Prerequisite Courses

The Minor in Electrical Engineering assumes that students have a background in mathematics and physics equivalent to that covered in the first two years of the ECGR curriculum, which includes the following courses:

MATH 1241 - Calculus I (3)
MATH 1242 - Calculus II (3)
MATH 2171 - Differential Equations (3)
PHYS 2101 - Physics for Science and Engineering I (3)
PHYS 2101L - Physics for Science and Engineering I Laboratory (1)
PHYS 2102 - Physics for Science and Engineering II (3)

## Minor Requirements

A Minor in Electrical Engineering consists of 18 credit hours and requires the following:

**Core Courses (9 credit hours)**

ECGR 2111 - Network Theory I (3)
or ECGR 2161 – Basic Electrical Engineering I (3)
ECGR 2112 - Network Theory II (3)
ECGR 2254 - Analytical Foundations of Electrical and Computer Engineering (3)

**Advanced Courses (6 credit hours)**

*Select at least two of the following. If all three listed courses are taken, one of the courses may count toward the elective course requirement below.*

ECGR 3111 - Signals and Systems (3)
ECGR 3120 - Electromagnetic Fields and Waves (3)
ECGR 3130 - Fundamentals of Electronics and Semiconductors (3)

**Elective Course (3 credit hours)**

*If only two advanced courses were selected above, select an elective course from the following. All prerequisites for the selected elective courses must be satisfied.*

ECGR 3XXX – Electrical and Computer Engineering Elective (3)
ECGR 4XXX – Electrical and Computer Engineering Elective (3)

## Minor Total = 18 Credit Hours

## Progression Requirements

Students must achieve a minimum GPA of 2.00 in all Minor courses.

## Special Policies or Requirements

This minor is not available for a student who has a major in either Electrical Engineering or Computer Engineering.

# Early Entry: M.S. or Ph.D. in Electrical Engineering

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.20 overall undergraduate GPA
- Minimum 3.20 GPA in the major
- Acceptable scores on the appropriate graduate standardized test (e.g., GRE) *(Students with a 3.50 GPA are eligible to waive the GRE requirement.)*
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

## Progression Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.00 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

## Special Policies or Requirements

Up to 9 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 9 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# Department of Engineering Technology

et.charlotte.edu

## Undergraduate Programs

- B.S.E.T. in Electromechanical Engineering Technology
  - Applied Energy
- B.S.E.T. in Fire and Safety Engineering Technology
  - Fire Safety
  - Occupational Safety
- B.S.E.T. in Mechanical Engineering Technology
  - Applied Energy
  - Electromechanical Systems
- Early Entry: M.S. in Applied Energy and Electromechanical Engineering
- Early Entry: M.S. in Fire Protection and Safety Management
- Minor in Occupational Safety

Engineering and technical education have undergone considerable change in the last 40 years. The complexities of space exploration, power generation, communications systems, environmental control, information processing, transportation systems, fire protection, construction management, and manufacturing have demanded a great increase in the involvement of professional engineers in theoretical and analytical work. This has resulted in a much greater emphasis upon research and development, science, and mathematics in professional engineering curricula. At the same time, after the more complex devices and systems have been engineered, their design, development, and operation require the sophisticated knowledge and skills of what might be called the "applied engineering sciences." Programs dedicated to filling this need exist all over the United States. The aim and content of these programs are distinctly different from professional engineering curricula.

To provide the appropriate distinction from both theoretical-professional engineers and from engineering technicians who are graduated from two-year community and technical colleges, the designation "engineering technologist" is employed to describe the graduates of four-year applied engineering or "engineering technology" curricula. The Department of Engineering Technology and Construction Management is committed to producing competent graduates that satisfy the needs of employers in North Carolina and throughout the United States.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

## Degree Programs

The Department of Engineering Technology and Construction Management offers curricula leading to the Bachelor of Science in Engineering Technology (BSET) degrees. Engineering Technology disciplines of study include: Engineering Technology: Electromechanical Engineering Technology, Fire and Safety Engineering Technology, and Mechanical Engineering Technology.

Students may enroll in the programs in several ways: 1) as First-Year students; 2) as transfers without an approved Associate of Applied Science (A.A.S.) degree in engineering technology, construction management, or fire safety; as a transfer after completing an Associate of Science (A.S.) or Associate in Engineering (A.E.) in a relevant engineering technology, construction management, or fire safety degree; or 4) as a transfer with an AAS degree in a relevant engineering technology, construction management, or fire safety curriculum at a community or technical college. Incoming students with an A.A.S. degree generally receive Junior class standing, with up to 64 credit hours applied toward the BSET or BSCM degree.

Construction Management and Engineering Technology students learn through applied technical courses and hands-on laboratories where they interact with experienced professors with many years of real-world engineering, design, project management, and product development experience. Graduation with a BSET degree in Engineering Technology opens the door to many exciting and challenging professional careers. Graduates choose from a variety of exciting career options where they enjoy productive professional careers with exceptional employment rates and excellent salaries.

## Accreditation

The Civil, Electrical, and Mechanical Engineering Technology programs are accredited by the Engineering Technology Accreditation Commission (ETAC) of ABET. The Construction Management program is accredited by the Engineering Technology Accreditation Commission (ETAC) and the Applied and Natural Science Accreditation Commission (ANSAC) of ABET, www.abet.org.

## Employment Opportunities for Graduates

Graduates of our programs can be found in every sector of the global economy. Examples of employment opportunities and examples of recent job titles are provided below for each program.

### Electromechanical Engineering Technology

Electromechanical Engineering Technology (ETEL) graduates find employment in many sectors of industry. Graduates can expect careers in robotics and automated systems, aerospace, automotive manufacturing, medical equipment and technology, electric power generation, power distribution, sustainable and renewable power, test and quality engineering, instrumentation and data acquisition, technical sales, and field engineering.

### Fire and Safety Engineering Technology

Fire Safety graduates find employment in numerous areas associated with fire safety and protection to include prevention, suppression, building design and fire investigation and re-creation, emergency preparedness, safety analysis, and mitigation. The program stresses the importance of personal communication skills and the ability to function in a team environment. Some typical job titles of recent graduates include firefighter, fire investigator, fire prevention officer, fire inspector, fire captain, and safety coordinator.

Occupational Safety graduates find employment in various industries such as construction, industrial/manufacturing plants, academic/university EHS, government offices (regulatory and non-regulatory), and military bases as safety professionals or Environmental Health & Safety (EHS) professionals. Students in the program will learn how to recognize, evaluate, and control the workplace hazards that are found in many different industries.

### Mechanical Engineering Technology

Mechanical Engineering Technology (MET) graduates use the principles of energy, materials, and mechanics to design, build, test and maintain a wide variety of machines, processes, and systems with employment in the automotive, aerospace, energy, and other high-tech industries. METs work in areas such as computer-aided design, plant production or maintenance, research and development, or as laboratory technicians, production assistants, manufacturing or quality control engineers, product and materials testing technologists, or applications engineers.

## Engineering Technology and Construction Management Program Educational Objectives and Outcomes

### Program Educational Objectives

These are statements that describe the expected accomplishments of graduates during the first few years *after* graduation.

The Department of Engineering Technology and Construction Management at UNC Charlotte is committed to providing the environment and expertise to ensure that its graduates make substantive contributions in their professional endeavors after graduation, both in the areas of technical proficiency and community involvement.

Accordingly, graduates of the BSET Civil, Electrical, Fire and Safety, and Mechanical Engineering Technology programs and BSCM Construction Management program contribute to society as productive technologists and engaged citizens by:

1.) Applying general and discipline-specific concepts and methodologies to identify, analyze, and solve technical problems.

2.) Articulating technical material in a professional manner to potentially diverse audiences and in a variety of circumstances.

3.) Assuming leadership roles and contributing within team environments while modeling ethical, respectful, and professional behavior at all times.

4.) Recognizing and appreciating the environmental, societal, and fiscal impact of the technical professions in a local, national, and global context.

5.) Demonstrating an individual desire and commitment to pursue continuous self-improvement and lifelong learning.

### Student Outcomes

The Engineering Technology programs identify, measure, and improve student competencies through assessment and continuous improvement of student learning outcomes, which are mapped to the ETAC of ABET Criterion 3 Outcomes listed below:

**ETAC of ABET Criterion 3 Outcomes**

For baccalaureate degree programs, these student outcomes must include, but are not limited to, the following:

1) An ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve broadly-defined engineering problems appropriate to the discipline;
2) An ability to design systems, components, or processes meeting specified needs for broadly-defined engineering problems appropriate to the discipline;
3) An ability to apply written, oral, and graphical communication in broadly defined technical and non-technical environments; and an ability to identify and use appropriate technical literature;
4) An ability to conduct standard tests, measurements, and experiments and to analyze and interpret the results to improve processes; and
5) An ability to function effectively as a member as well as a leader on technical teams.

The Construction Management program's student outcomes are also mapped to the ANSAC of ABET Criterion 3 Outcomes listed below:

**ANSAC of ABET Criterion 3 Skills**

Baccalaureate degree program student outcomes must include, but are not limited to, the following:

1) An ability to identify, formulate, and solve broadly defined technical or scientific problems by applying knowledge of mathematics and science and/or technical topics to areas relevant to the discipline.
2) An ability to formulate or design a system, process, procedure or program to meet desired needs.
3) An ability to develop and conduct experiments or test hypotheses, analyze and interpret data and use scientific judgment to draw conclusions.
4) An ability to communicate effectively with a range of audiences.
5) An ability to understand ethical and professional responsibilities and the impact of technical and/or scientific solutions in global, economic, environmental, and societal contexts.
6) An ability to function effectively on teams that establish goals, plan tasks, meet deadlines, and analyze risk and uncertainty.

# Electromechanical Engineering Technology

The Bachelor of Science in Electromechanical Engineering Technology (B.S.E.T) is designed to equip students with the knowledge, skills, and expertise needed to thrive in the dynamic field of electromechanical systems. This interdisciplinary program integrates principles of both electrical and mechanical engineering, preparing students to work at the intersection of these two critical disciplines.

Graduates can expect technical and professional careers in areas such as instrumentation and control, manufacturing, robotics, automation, electrical power operations, energy, data acquisition, technical sales, or related field services.

The major program of study is arranged in a logical 6-semester sequence, with study moving from basic concepts through highly technical applied principles. A special focus is given to "learning while doing" with several courses held in advanced laboratories, and several professional courses are offered to assist in the development of managerial skills. Students also have direct access to a Master of Science degree in Applied Energy and Electromechanical Engineering (AEEE), with as little as one additional year of study.

All program-level Admissions and Progression Requirements are in addition to the University of North Carolina at Charlotte Admission Requirements.

## BSET in Electromechanical Engineering Technology

The Bachelor of Science in Electromechanical Engineering Technology (B.S.E.T) is designed to equip students with the knowledge, skills, and expertise needed to thrive in the dynamic field of electromechanical systems. This interdisciplinary program integrates principles of both electrical and mechanical engineering, preparing students to work at the intersection of these two critical disciplines.

Graduates can expect technical and professional careers in areas such as instrumentation and control, manufacturing, robotics, automation, electrical power operations, energy, data acquisition, technical sales, or related field services.

The major program of study is arranged in a logical 6-semester sequence, with study moving from basic concepts through highly technical applied principles. A special focus is given to "learning while doing" with several courses held in advanced laboratories, and several professional courses are offered to assist in the development of managerial skills. Students also have direct access to a Master of Science degree in Applied Energy and Electromechanical Engineering (AEEE), with as little as one additional year of study.

### Admission Requirements

#### First-Year Students

First-year admission is competitive, based upon an overall evaluation of the high school record, with particular emphasis on advanced courses in math and science. See University Admission Requirements for a detailed description of the criteria.

First-Year students may either select a major at the time of their application or may choose to be Engineering-undeclared. All First-Year College of Engineering students will take a common set of courses called the Common First Year. Towards the end of their first year, having completed all progression requirements, students will declare or confirm their Engineering Major for the second through fourth years. This selection may be the major they initially indicated or any other engineering major for which they meet the progression requirements.

#### Transfers

All transfer students will be evaluated for placement into a departmental Program or the Common First Year program based on the evaluation of their transfer credits (consistent with the North Carolina articulation agreements).

- See University Admission Requirements
- Minimum GPA: 2.50 (2.80 for Mechanical Engineering)
- Pre-Major/Prerequisite Courses:
  - Engineering Programs: Calculus I course (equivalent to MATH 1241), with a grade of C or above
  - Engineering Technology Programs: Pre-calculus course (equivalent to MATH 1103) or higher, with a grade of C or above
- Transferable Credit Hours: Minimum of 24

Transfers from an ABET-accredited engineering program who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

#### Currently Enrolled Students

Current UNC Charlotte students who wish to change or declare their major to Electromechanical Engineering Technology must:

- Complete the College of Engineering Common First Year (or equivalent courses) in order to be considered eligible for admission. See **Common First-Year Courses** below.
- Achieve a GPA between 2.2 - 4.0.
- Pass all currently attempted required courses within three attempts including withdrawing from a course with a grade of W.

Upon satisfying all of the above requirements, students may request admission to an ETCM program by submitting the Change of Major form. Completion of the minimum requirements does not guarantee acceptance into a program.

### Common First-Year Curriculum (CFY)

The College of Engineering uses a Common First-Year Curriculum (CFY) for all Engineering students in order to:

- Provide a strong academic base of foundational knowledge and skills
- Facilitate changing majors within the first year
- Support students with lower math placement and increase access to all majors
- Allow students to explore different majors before committing
- Enhance learning with innovative pedagogies and activities

#### Common First-Year Courses

All new first-year students are initially advised by a central office within the W.S. Lee College of Engineering. Students must complete the following classes that are common to all majors of the college (except Construction Management and Fire and Safety Engineering Technology) in order to progress and matriculate to their major department. *All First-Year Curriculum courses require a grade of C or better.*

ENGR 1300 Exploring Engineering & Technology with Success (2)
ENGR 1301 Foundations of Math and Science for Engineering (3)
ENGR 1302 Logic and Computational Problem Solving (3)
ENGR 1303 Engineering Visualization and Graphical Communication (3)
PHYS 2101 (3)
PHYS 2101L (1)
Two MATH courses: MATH 1103* or MATH 1241* or MATH 1242* (3 each)
*See Notes 1 and 2 below*

* All students should consult their advisor to select the math courses that match their planned major.

***Note 1***
Progression into Civil Engineering, Computer Engineering, Construction Engineering, Electrical Engineering, Environmental Engineering, Mechanical Engineering, and Systems Engineering Major Courses after completing the Common First Year Curriculum requires that students also complete MATH 1241, MATH 1242, PHYS 2101, and PHYS 2101L.

***Note 2***
Progression into Civil Engineering Technology, Electromechanical Engineering Technology, and Mechanical Engineering Technology Major Courses after completing the Common First Year Curriculum requires that students complete MATH 1241, PHYS 2101, and PHYS 2101L with a C or better (except for Electromechanical Engineering Technology).

***Note 3***
Students must earn at least a 2.0 GPA in the first semester to continue into the second semester.

## Degree Requirements

A major in Electromechanical Engineering Technology leading to the B.S.E.T. degree consists of a total of 120 credit hours which may include up to 64 credit hours transferred in from North Carolina Community Colleges (NCCC). For details on progression, see the Progression Requirements section.

Transfer admission requires applicants to hold an Associate of Applied Science (AAS) degree in a related field. Qualifying disciplines include Engineering Technology degrees in Automation, Computer, Electrical, Electrical Systems, Electronics, Industrial Systems, and Mechatronics. A minimum GPA of 2.50 (out of 4.00) in the AAS degree is required for consideration.

It is recommended, but not required, that students complete all equivalent Math, Physics, and Lower-Level Major courses before entry into the program. Any required courses not completed at a NCCC can be completed at Charlotte after entry.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program.

Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**First-Year Courses (21 credit hours)**
See Common First-Year Curriculum (CFY) for details.

**Additional Math Courses (3 credit hours)**
MATH 1242 - Calculus II (3)
or ETGR 2272 - Engineering Analysis II (3)

**Major Courses (25 credit hours)**
ETEM 2101 - Circuit Fundamentals (3)
ETEM 2161 - Foundations of Mechanics (3)
ETEM 2171 - Algorithms and Programming (3)
ETEM 2181 - Circuits and Machines in Action (2)
ETEM 2271 - Digital Fundamentals (3)
ETEM 2281 - Doing and Making (3)
ETEM 2291 - Practical System Design (3)
ETEM 3101 - Principles of Control (3)
ETEM 3131 - Electromechanical Devices (3)
ETEM 3171 - Digital Devices (3)
ETEM 3181 - Exploring Devices (1)
ETEM 3191 - From Concept to Product (3)
ETEM 3231 - Power, Machines, and Energy (3)
ETEM 3261 - Applied Control Systems (3)
ETEM 3281 - More Doing and Making (3)
ETEM 4100 - Electromechanical Capstone Design I (2)
ETEM 4131 - Intelligent Industrial Systems (3)
ETEM 4141 - Digital Manufacturing Methods (3)
ETEM 4161 - Elements of Automation (3)
ETEM 4200 - Electromechanical Capstone Design II (2)
ETEM 4261 - Robotics and Cyber-Physical Systems (3)
ETEM 4600 - Technology Seminar (1)
ETGR 3295 - Multidisciplinary Professional Development (1)
MEET 2211 - CAD Fundamentals (3)

**Restricted Elective Courses (12 credit hours)**
*From the following list choose four courses (12 credit hours) that are not already required in the major:*

AEEE 4000-level courses
ECGR 3000-level courses
ECGR 4000-level courses
ELET 4000-level courses
ETEM 4000-level courses
ETME 3000-level courses
ETME 4000-level courses
ITCS 3000-level courses
ITCS 4000-level courses
ITSC 2000-level courses
ITSC 3000-level courses
ITSC 4000-level courses
MATH 2000-level courses
MATH 3000-level courses
MATH 4000-level courses
MEGR 3000-level courses
MEGR 4000-level courses
MEET 3000-level courses
MEET 4000-level courses

PHYS 3000-level courses
PHYS 4000-level courses
SEGR 3000-level courses
SEGR 4000-level courses
STAT 2000-level courses
STAT 3000-level courses
STAT 4000-level courses

*Or any of these specific courses:*
MEET 2201 Applied Engineering Materials
MEET 2202 Applied Manufacturing
MEET 2302 Kinematics
Other courses as approved on a case-by-case basis by program administration

## Degree Total = 120 Credit Hours

## Degree Requirements - Other

**General Education Requirements (31-32 credit hours)**
Students entering UNC Charlotte with an approved AAS degree from a North Carolina Community College (NCCU) will complete a modified General Education course block. General Education hours required to be completed at UNC Charlotte may vary based on transfer credit equivalencies/transfer credit awarded.

**Math and Physics Courses (13 credit hours)**
MATH 1103 - Precalculus Mathematics for Science and Engineering (3 to 5)
MATH 1241 - Calculus I (3)
MATH 1242 - Calculus II (3)
or ETGR 2272 - Engineering Analysis II (3)
PHYS 1101 - Introductory Physics I (3)
or PHYS 2101 - Physics for Science and Engineering I (3)
PHYS 1101L - Introductory Physics I Laboratory (1)
or PHYS 2101L - Physics for Science and Engineering I Laboratory (1)

**Lower-Level Major Courses (15 credit hours)**
Students earning an AAS in Automation, Computer, Electrical, Electrical Systems, Electronics, Industrial Systems, and Mechatronics are exempt from the following courses required in the 4-year program: ENGR 1300, ENGR 1301, ENGR 1302, ENGR 1303 , ETEM 2181 and ETEM 2281.

ETEM 2101 - Circuit Fundamentals (3)
ETEM 2161 - Foundations of Mechanics (3)
ETEM 2171 - Algorithms and Programming (3)
ETEM 2271 - Digital Fundamentals (3)
MEET 2211 - CAD Fundamentals (3)

**Resident Courses**
**Major Courses (43 credit hours)**
ETEM 2291 - Practical System Design (3)
ETEM 3101 - Principles of Control (3)
ETEM 3131 - Electromechanical Devices (3)
ETEM 3171 - Digital Devices (3)
ETEM 3181 - Exploring Devices (1)
ETEM 3191 - From Concept to Product (3)
ETEM 3231 - Power, Machines, and Energy (3)
ETEM 3261 - Applied Control Systems (3)
ETEM 3281 - More Doing and Making (3)
ETEM 4100 - Electromechanical Capstone Design I (2)
ETEM 4131 - Intelligent Industrial Systems (3)
ETEM 4141 - Digital Manufacturing Methods (3)
ETEM 4161 - Elements of Automation (3)
ETEM 4200 - Electromechanical Capstone Design II (2)
ETEM 4261 - Robotics and Cyber-Physical Systems (3)
ETEM 4600 - Technology Seminar (1)
ETGR 3295 - Multidisciplinary Professional Development (1)

**Restricted Elective Courses (12 credit hours)**
*From the following list, choose two courses (6 credit hours) that are not already required in the major:*
AEEE 4000-level courses
ECGR 3000-level courses
ECGR 4000-level courses
ELET 4000-level courses
ETEM 4000-level courses
ETME 3000-level courses
ETME 4000-level courses
ITCS 3000-level courses
ITCS 4000-level courses
ITSC 2000-level courses
ITSC 3000-level courses
ITSC 4000-level courses
MATH 2000-level courses
MATH 3000-level courses
MATH 4000-level courses
MEGR 3000-level courses
MEGR 4000-level courses
MEET 3000-level courses
MEET 4000-level courses
PHYS 3000-level courses
PHYS 4000-level courses
SEGR 3000-level courses
SEGR 4000-level courses
STAT 2000-level courses
STAT 3000-level courses
STAT 4000-level courses

*Or any of these specific courses:*
MEET 2201 Applied Engineering Materials
MEET 2202 Applied Manufacturing
MEET 2302 Kinematics
Other courses as approved on a case-by-case basis by program administration

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements

### First-Year Requirements

After completing the Common First Year Curriculum (CFY) courses, students will decide on their engineering major for their second through fourth years, which may be the major they initially indicated or any other engineering major. Students must meet the following requirements in order to register for major courses:

#### Engineering Majors

Engineering majors must complete all of the requirements below before enrolling in W.S. Lee College of Engineering sophomore-year engineering courses.

- Pass all courses within two attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1242, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.5 cumulative GPA upon completion of the Common First Year Curriculum courses (2.80 for Mechanical Engineering majors)

#### Engineering Technology and Construction Management Majors

#### Civil Engineering Technology

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

#### Electromechanical Engineering Technology

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum including MATH 1241 with grade of C or above and PHYS 2101 and PHYS 2101L
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

#### Mechanical Engineering Technology

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.2 cumulative GPA upon completion of the Common First Year courses

#### Construction Management

- Complete CMET 1400, ETCE 1222, ETCE 1211L, and MATH 1103
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

#### Fire & Safety Engineering Technology (Fire & Safety)

- Complete ETFS 1152, ETFS 1201, ETFS 1220, ETFS 1244, and MATH 1100
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

#### Fire & Safety Engineering Technology (Occupational Safety)

- Complete BIOL 1110, ETFS 1201, ETFS 1220, ETGR 2230, MATH 1103, PSYC 1101 and STAT 1220
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

## Special Policies or Requirements

Acceptance of a completed AAS degree indicates the acceptance of up to 64 credit hours toward the Bachelor of Science in Engineering Technology degree program only. These hours may not be valid toward other degree programs at UNC Charlotte.

# BSET in Electromechanical Engineering Technology *with Concentration in Applied Energy*

A Concentration in Applied Energy is available to BSET in Electromechanical Engineering Technology students.

## Admission Requirements

### First-Year Students

First-year admission is competitive, based upon an overall evaluation of the high school record, with particular emphasis on advanced courses in math and science. See University Admission Requirements for a detailed description of the criteria.

First-Year students may either select a major at the time of their application or may choose to be Engineering-undeclared. All First-Year College of Engineering students will take a common set of courses called the Common First Year. Towards the end of their first year, having completed all progression requirements, students will declare or confirm their Engineering Major for the second through fourth years. This selection may be the major they initially indicated or any other engineering major for which they meet the progression requirements.

#### Transfers

All transfer students will be evaluated for placement into a departmental Program or the Common First Year program based on the evaluation of their transfer credits (consistent with the North Carolina articulation agreements).

- See University Admission Requirements
- Minimum GPA: 2.50 (2.80 for Mechanical Engineering)

- Pre-Major/Prerequisite Courses:
  - Engineering Programs: Calculus I course (equivalent to MATH 1241), with a grade of C or above
  - Engineering Technology Programs: Pre-calculus course (equivalent to MATH 1103) or higher, with a grade of C or above
- Transferable Credit Hours: Minimum of 24

Transfers from an ABET-accredited engineering program who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

**Currently Enrolled Students**
Current UNC Charlotte students who wish to change or declare their major to Electromechanical Engineering Technology must:

- Complete the College of Engineering Common First Year (or equivalent courses) in order to be considered eligible for admission. See **Common First-Year Courses** below.
- Achieve a GPA between 2.2 - 4.0.
- Pass all currently attempted required courses within three attempts including withdrawing from a course with a grade of W.

Upon satisfying all of the above requirements, students may request admission to an ETCM program by submitting the Change of Major form. Completion of the minimum requirements does not guarantee acceptance into a program.

## Common First-Year Curriculum

The College of Engineering uses a Common First-Year Curriculum (CFY) for all Engineering students in order to:

- Provide a strong academic base of foundational knowledge and skills
- Facilitate changing majors within the first year
- Support students with lower math placement and increase access to all majors
- Allow students to explore different majors before committing
- Enhance learning with innovative pedagogies and activities

**Common First-Year Courses**
All new first-year students are initially advised by a central office within the W.S. Lee College of Engineering. Students must complete the following classes that are common to all majors of the college (except Construction Management and Fire and Safety Engineering Technology) in order to progress and matriculate to their major department. *All First-Year Curriculum courses require a grade of C or better.*

ENGR 1300 Exploring Engineering & Technology with Success (2)
ENGR 1301 Foundations of Math and Science for Engineering (3)
ENGR 1302 Logic and Computational Problem Solving (3)
ENGR 1303 Engineering Visualization and Graphical Communication (3)
PHYS 2101 (3)
PHYS 2101L (1)
Two MATH courses: MATH 1103* or MATH 1241* or MATH 1242* (3 each)
*See Notes 1 and 2 below*

* All students should consult their advisor to select the math courses that match their planned major.

***Note 1***
Progression into Civil Engineering, Computer Engineering, Construction Engineering, Electrical Engineering, Environmental Engineering, Mechanical Engineering, and Systems Engineering Major Courses after completing the Common First Year Curriculum requires that students also complete MATH 1241, MATH 1242, PHYS 2101, and PHYS 2101L.

***Note 2***
Progression into Civil Engineering Technology, Electromechanical Engineering Technology, and Mechanical Engineering Technology Major Courses after completing the Common First Year Curriculum requires that students complete MATH 1241, PHYS 2101, and PHYS 2101L with a C or better (except for Electromechanical Engineering Technology).

***Note 3***
Students must earn at least a 2.0 GPA in the first semester to continue into the second semester.

## Degree Requirements

A major in Electromechanical Engineering Technology leading to the B.S.E.T. degree consists of a total of 120 credit hours which may include up to 64 credit hours transferred in from North Carolina Community Colleges (NCCC). For details on progression, see the Progression Requirements section.

Transfer admission requires applicants to hold an Associate of Applied Science (AAS) degree in a related field. Acceptable AAS degrees include Engineering Technology degrees of the following disciplines: Automation, Computer, Electrical, Electrical Systems, Electronics, Industrial Systems, and Mechatronics. A minimum GPA of 2.50 (out of 4.00) in the AAS degree is required.

It is recommended, but not required, that students complete all equivalent Math, Physics, and Lower-Level Major courses before entry into the program. Any required courses not completed at a NCCC can be completed at Charlotte after entry.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**First-Year Courses (21 credit hours)**
See Common First-Year Curriculum (CFY) for details.

**Additional Math Courses (3 credit hours)**
MATH 1242 - Calculus II (3)
or ETGR 2272 - Engineering Analysis II (3)

**Major Courses (57 credit hours)**
ETEM 2101 - Circuit Fundamentals (3)
ETEM 2161 - Foundations of Mechanics (3)
ETEM 2171 - Algorithms and Programming (3)
ETEM 2181 - Circuits and Machines in Action (2)
ETEM 2271 - Digital Fundamentals (3)
ETEM 2281 - Doing and Making (3)
ETEM 2291 - Practical System Design (3)
ETEM 3101 - Principles of Control (3)

ETEM 3131 - Electromechanical Devices (3)
ETEM 3171 - Digital Devices (3)
ETEM 3181 - Exploring Devices (1)
ETEM 3191 - From Concept to Product (3)
ETEM 3261 - Applied Control Systems (3)
ETEM 3281 - More Doing and Making (3)
ETEM 4100 - Electromechanical Capstone Design I (2)
ETEM 4141 - Digital Manufacturing Methods (3)
ETEM 4161 - Elements of Automation (3)
ETEM 4200 - Electromechanical Capstone Design II (2)
ETEM 4261 - Robotics and Cyber-Physical Systems (3)
ETEM 4600 - Technology Seminar (1)
ETGR 3295 - Multidisciplinary Professional Development (1)
MEET 2211 - CAD Fundamentals (3)

## Concentration Courses (12 credit hours)

**Concentration Required Courses (6 credit hours)**
ETEM 3231 – Power, Machines and Energy (3)
ETEM 4131 – Intelligent Industrial Systems (3)

**Concentration Elective Courses (6 credit hours)**
*From the following, choose two courses that are not already required in the curriculum:*

AEEE 4140 - Energy Management (3)
AEEE 4250 - Analysis of Renewable Energy Systems (3)
ETEM 4010 - Special Topics in Energy (3)
ETEM 431x courses (courses beginning with ETEM 431)

*With departmental approval, energy courses offered by other departments in the College of Engineering may be taken.*

**Restricted Elective Courses (6 credit hours)**
*From the following list, choose two courses that are not already required in the major:*
AEEE 4000-level courses
ECGR 3000-level courses
ECGR 4000-level courses
ELET 4000-level courses
ETEM 4000-level courses
ETME 3000-level courses
ETME 4000-level courses
ITCS 3000-level courses
ITCS 4000-level courses
ITSC 2000-level courses
ITSC 3000-level courses
ITSC 4000-level courses
MATH 2000-level courses
MATH 3000-level courses
MATH 4000-level courses
MEGR 3000-level courses
MEGR 4000-level courses
MEET 3000-level courses
MEET 4000-level courses
PHYS 3000-level courses
PHYS 4000-level courses
SEGR 3000-level courses
SEGR 4000-level courses
STAT 2000-level courses
STAT 3000-level courses
STAT 4000-level courses

*Or any of these specific courses:*
MEET 2201 Applied Engineering Materials
MEET 2202 Applied Manufacturing
MEET 2302 Kinematics
Other courses as approved on a case-by-case basis by program administration

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

---

## Degree Requirements - Other

**General Education Requirements (31-32 credit hours)**
Students entering UNC Charlotte with an approved AAS degree from a North Carolina Community College (NCCC) will complete a modified General Education course block. General Education hours required to be completed at UNC Charlotte may vary based on transfer credit equivalencies/transfer credit awarded.

**Math and Physics Courses (13 credit hours)**
MATH 1103 - Precalculus Mathematics for Science and Engineering (3 to 5)
MATH 1241 - Calculus I (3)
MATH 1242 - Calculus II (3)
or ETGR 2272 - Engineering Analysis II (3)
PHYS 1101 - Introductory Physics I (3)
or PHYS 2101 - Physics for Science and Engineering I (3)
PHYS 1101L - Introductory Physics I Laboratory (1)
or PHYS 2101L - Physics for Science and Engineering I Laboratory (1)

**Lower-Level Major Courses (15 credit hours)**
Students earning an AAS in Automation, Computer, Electrical, Electrical Systems, Electronics, Industrial Systems, and Mechatronics are exempt from the following courses required in the 4-year program: ENGR1300, ENGR1301, ENGR1302, ENGR1303, ETEM 2181 and ETEM 2281.

ETEM 2101 - Circuit Fundamentals (3)
ETEM 2161 - Foundations of Mechanics (3)
ETEM 2171 - Algorithms and Programming (3)
ETEM 2271 - Digital Fundamentals (3)
MEET 2211 - CAD Fundamentals (3)

## Resident Courses

**Major Courses (37 credit hours)**
ETEM 2291 - Practical System Design (3)
ETEM 3101 - Principles of Control (3)
ETEM 3131 - Electromechanical Devices (3)
ETEM 3171 - Digital Devices (3)

ETEM 3181 - Exploring Devices (1)
ETEM 3191 - From Concept to Product (3)
ETEM 3261 - Applied Control Systems (3)
ETEM 3281 - More Doing and Making (3)
ETEM 4100 - Electromechanical Capstone Design I (2)
ETEM 4141 - Digital Manufacturing Methods (3)
ETEM 4161 - Elements of Automation (3)
ETEM 4200 - Electromechanical Capstone Design II (2)
ETEM 4261 - Robotics and Cyber-Physical Systems (3)
ETEM 4600 - Technology Seminar (1)
ETGR 3295 - Multidisciplinary Professional Development (1)

**Concentration Courses (12 credit hours)**
*Concentration Required Courses (6 credit hours)*
ETEM 3231 - Power, Machines, and Energy (3)
ETEM 4131 - Intelligent Industrial Systems (3)

***Concentration Elective Courses (6 credit hours)***
*From the following, choose two courses (6 credit hours) that are not already required in the curriculum:*
AEEE 4140 - Energy Management (3)
AEEE 4250 - Analysis of Renewable Energy Systems (3)
ETEM 4010 - Special Topics in Energy (3)
ETEM 431x courses (courses beginning with ETEM 431)
With departmental approval, energy courses offered by other departments in the College of Engineering may be taken.

**Restricted Elective Courses (6 credit hours)**
*From the following list, choose two courses (6 credit hours) that are not already required in the major:*
AEEE 4000-level courses
ECGR 3000-level courses
ECGR 4000-level courses
ELET 4000-level courses
ETEM 4000-level courses
ETME 3000-level courses
ETME 4000-level courses
ITCS 3000-level courses
ITCS 4000-level courses
ITSC 2000-level courses
ITSC 3000-level courses
ITSC 4000-level courses
MATH 2000-level courses
MATH 3000-level courses
MATH 4000-level courses
MEGR 3000-level courses
MEGR 4000-level courses
MEET 3000-level courses
MEET 4000-level courses
PHYS 3000-level courses
PHYS 4000-level courses
SEGR 3000-level courses
SEGR 4000-level courses
STAT 2000-level courses
STAT 3000-level courses
STAT 4000-level courses

*Or any of these specific courses:*
MEET 2201 Applied Engineering Materials
MEET 2202 Applied Manufacturing
MEET 2302 Kinematics
Other courses as approved on a case-by-case basis by program administration

## Progression Requirements

After completing the Common First Year Curriculum (CFY) courses, students will decide on their engineering major for their second through fourth years, which may be the major they initially indicated or any other engineering major. Students must meet the following requirements in order to register for major courses:

**Engineering Majors**
Engineering majors must complete all of the requirements below before enrolling in W.S. Lee College of Engineering sophomore-year engineering courses.

- Pass all courses within two attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1242, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.5 cumulative GPA upon completion of the Common First Year Curriculum courses (2.80 for Mechanical Engineering majors)

**Engineering Technology and Construction Management Majors**
**Civil Engineering Technology**

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Electromechanical Engineering Technology**

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum including MATH 1241 with grade of C or above and PHYS 2101 and PHYS 2101L
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Mechanical Engineering Technology**

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.2 cumulative GPA upon completion of the Common First Year courses

**Construction Management**

- Complete CMET 1400, ETCE 1222, ETCE 1211L, and MATH 1103
- Pass all courses within three attempts, including withdrawing from a course with a grade of W

- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Fire & Safety)**
- Complete ETFS 1152, ETFS 1201, ETFS 1220, ETFS 1244, and MATH 1100
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Occupational Safety)**
- Complete BIOL 1110, ETFS 1201, ETFS 1220, ETGR 2230, MATH 1103, PSYC 1101 and STAT 1220
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

### Special Policies or Requirements
Acceptance of a completed AAS degree indicates the acceptance of up to 64 credit hours toward the Bachelor of Science in Engineering Technology degree program only. These hours may not be valid toward other degree programs at UNC Charlotte.

# Mechanical Engineering Technology

## BSET in Mechanical Engineering Technology
Mechanical Engineering Technology includes technical and mechanical drawing, computer-aided design, machine design, manufacturing and machine processes, fluid power systems, statics and strength of materials, mechanisms, stress analysis, instrumentation and controls, thermodynamic systems, energy, heat transfer, dynamics, methods analysis, and engineering economics.

### Admission Requirements
Students for this degree may enter degree programs in the Department of Engineering Technology and Construction Management as First-Year students or as transfer students.

**First-Year Students**
First-year admission is competitive, based upon an overall evaluation of the high school record, with particular emphasis on advanced courses in math and science. See University Admission Requirements for a detailed description of the criteria.

First-Year students may either select a major at the time of their application or may choose to be Engineering-undeclared. All First-Year College of Engineering students will take a common set of courses called the Common First Year. Towards the end of their first year, having completed all progression requirements, students will declare or confirm their Engineering Major for the second through fourth years. This selection may be the major they initially indicated or any other engineering major for which they meet the progression requirements.

**Transfers**
All transfer students will be evaluated for placement into a departmental Program or the Common First Year program based on the evaluation of their transfer credits (consistent with the North Carolina articulation agreements).

- See University Admission Requirements
- Minimum GPA: 2.50 (2.80 for Mechanical Engineering)
- Pre-Major/Prerequisite Courses:
  - Engineering Programs: Calculus I course (equivalent to MATH 1241), with a grade of C or above
  - Engineering Technology Programs: Pre-calculus course (equivalent to MATH 1103) or higher, with a grade of C or above
- Transferable Credit Hours: Minimum of 24

Transfers from an ABET-accredited engineering program who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

**Currently Enrolled Students**
Current UNC Charlotte students who wish to change or declare their major to Mechanical Engineering Technology must:

- Complete the College of Engineering Common First Year (or equivalent courses) in order to be considered eligible for admission. See **Common First-Year Courses** below.
- Achieve a GPA between 2.2 - 4.0.
- Pass all currently attempted required courses within three attempts including withdrawing from a course with a grade of W.

Upon satisfying all of the above requirements, students may request admission to an ETCM program by submitting the Change of Major form. Completion of the minimum requirements does not guarantee acceptance into a program.

### Common First-Year Curriculum (CFY)
The College of Engineering uses a Common First-Year Curriculum (CFY) for all Engineering students in order to:
- Provide a strong academic base of foundational knowledge and skills
- Facilitate changing majors within the first year
- Support students with lower math placement and increase access to all majors
- Allow students to explore different majors before committing
- Enhance learning with innovative pedagogies and activities

**Common First-Year Courses**
All new first-year students are initially advised by a central office within the W.S. Lee College of Engineering. Students must complete the following classes that are common to all majors of the college (except Construction Management and Fire and Safety Engineering Technology) in order to progress and matriculate to their major department. *All First-Year Curriculum courses require a grade of C or better.*

ENGR 1300 Exploring Engineering & Technology with Success (2)

ENGR 1301 Foundations of Math and Science for Engineering (3)
ENGR 1302 Logic and Computational Problem Solving (3)
ENGR 1303 Engineering Visualization and Graphical Communication (3)
PHYS 2101 (3)
PHYS 2101L (1)
Two MATH courses: MATH 1103* or MATH 1241* or MATH 1242* (3 each)
*See Notes 1 and 2 below*

* All students should consult their advisor to select the math courses that match their planned major.

***Note 1***
Progression into Civil Engineering, Computer Engineering, Construction Engineering, Electrical Engineering, Environmental Engineering, Mechanical Engineering, and Systems Engineering Major Courses after completing the Common First Year Curriculum requires that students also complete MATH 1241, MATH 1242, PHYS 2101, and PHYS 2101L.

***Note 2***
Progression into Civil Engineering Technology, Electromechanical Engineering Technology, and Mechanical Engineering Technology Major Courses after completing the Common First Year Curriculum requires that students complete MATH 1241, PHYS 2101, and PHYS 2101L with a C or better (except for Electromechanical Engineering Technology).

***Note 3***
Students must earn at least a 2.0 GPA in the first semester to continue into the second semester.

## Degree Requirements (4-Year Program)

The BSET in Mechanical Engineering Technology program consists of 120 credit hours which may include up to 64 credit hours transferred in from North Carolina Community Colleges (NCCC) . For details on progression, see the Progression Requirements section.

Transfer admission requires applicants to hold an Associate of Applied Science (AAS) degree in a related field. Acceptable AAS degrees include Engineering Technology degrees of the following disciplines: Automation, Computer, Electrical, Electrical Systems, Electronics, Industrial Systems, and Mechatronics. A minimum GPA of 2.50 (out of 4.00) in the AAS degree is required.

It is recommended, but not required, that students complete all equivalent Math, Physics, and Lower-Level Major courses before entry into the program. Any required courses not completed at a NCCC can be completed at Charlotte after entry.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Common First-Year Courses (21 credit hours)**
See Common First-Year Curriculum (CFY) for details.

**Additional Math and Physics Courses (10 credit hours)**
ETGR 2272 - Engineering Analysis II (3) *
or MATH 1242 - Calculus II (3) *
ETGR 3171 - Engineering Analysis III (3)
or MATH 2171 - Differential Equations (3)

PHYS 1102 - Introductory Physics II (3) *
or PHYS 2102 - Physics for Science and Engineering II (3) *
PHYS 1102L - Introductory Physics II Laboratory (1) *
or PHYS 2102L - Physics for Science and Engineering II Laboratory (1) *

**Major Courses (59 credit hours)**
ENGL 2116 - Introduction to Technical Communication (3)
MEET 2211 - CAD Fundamentals (3) *
MEET 2201 - Applied Engineering Materials (3)
MEET 2100 - Project Design and Management (3)
MEET 2202 - Applied Manufacturing (3)
MEET 2221 - Circuit Fundamentals (3)
MEET 2222 - Instrumentation and Measurements (3)
MEET 2203 - Manufacturing Laboratory (1)
MEET 2301 – Statics (3) *
MEET 2302 - Kinematics (3)
MEET 2600 - Professional Development Seminar for Engineering Technologists (1)
MEET 3100 - Junior Design Practicum (3)
MEET 3250 - Fluid Mechanics (3)
MEET 3251 - Principles of Thermal Engineering (3)
MEET 3301 - Strength of Materials (3)
MEET 3301L - Stress Analysis Laboratory (1)
MEET 3302 - Kinetics (3)
MEET 3303 - Machine Design I (3)
MEET 4101 - Senior Design I (2)
MEET 4102 - Senior Design II (2)
MEET 4211 - Applied CAD Modeling and Simulation (3)
MEET 4251 - Thermal Engineering Applications (3)
MEET 4252 - Thermal Fluids Laboratory (1)

**Restricted Elective Courses (12 credit hours)**
AEEE 4000 - Special Topics (1 to 3)
AEEE 4140 - Energy Management (3)
AEEE 4250 - Analysis of Renewable Energy Systems (3)
AEEE 4290 - Advanced Instrumentation (3)
ETEM 2171 - Algorithms and Programming (3)
ETEM 2271 - Digital Fundamentals (3)
ETEM 3101 - Principles of Control (3)
ETEM 3131 - Electromechanical Devices (3)
ETEM 3231 - Power, Machines, and Energy (3)
ETEM 3261 - Applied Control Systems (3)
ETEM 3171 - Digital Devices (3)
ETEM 4141 - Digital Manufacturing Methods (3)
ETEM 4161 - Elements of Automation (3)
ETFS 3123 - Industrial Hazards and Electricity (3)
ETGR 2230 - Occupational Safety (3)
ETGR 4301 - Environmental Pollution Control (3)
ETGR 4302 - Industrial Hygiene (3)
ETGR 4303 - Applied Ergonomics and Human Factors (3)
MEET 3211 - Advanced CAD Modeling (3)
MEET 4000 - Special Topics in Mechanical Engineering Technology (3)
MEET 4010 - Special Topics in Energy (3)
MEET 4020 - Special Topics in Electromechanical (3)
MEET 4253 - Heating, Ventilating, and Air Conditioning (3)

MEET 4303 - Machine Design II (3)
SEGR 4961 - Introduction to Energy Systems (3)
SEGR 4962 - Energy Markets (3)

**Grade Requirements**
*Note: Courses marked with * must be completed with a grade of C or above.

## Degree Total = 120 Credit Hours

## Degree Requirements - Other

**General Education Courses**
Students entering UNC Charlotte with an approved AAS degree from a North Carolina Community College (NCU) will complete a modified General Education course block. General Education hours required to be completed at UNC Charlotte may vary based on transfer credit equivalencies/transfer credit awarded.

**Mathematics and Science Foundation Courses (20 credit hours)**
ENGR 1301 - Foundations of Math and Science for Engineering (3)
MATH 1103 - Precalculus Mathematics for Science and Engineering (3 to 5) *
MATH 1241 - Calculus I (3) *
MATH 1242 - Calculus II (3) *
or ETGR 2272 - Engineering Analysis II (3) *
PHYS 1101 - Introductory Physics I (3) *
or PHYS 2101 - Physics for Science and Engineering I (3) *

PHYS 1101L - Introductory Physics I Laboratory (1) *
or PHYS 2101L - Physics for Science and Engineering I Laboratory (1) *
PHYS 1102 - Introductory Physics II (3) *
or PHYS 2102 - Physics for Science and Engineering II (3) *
PHYS 1102L - Introductory Physics II Laboratory (1) *
or PHYS 2102L - Physics for Science and Engineering II Laboratory (1) *

**Lower Level Major Courses (18 credit hours)**
MEET 2211 - CAD Fundamentals (3) *
MEET 2201 - Applied Engineering Materials (3)
MEET 2202 - Applied Manufacturing (3)
MEET 2221 - Circuit Fundamentals (3)
MEET 2301 – Statics (3) *
MEET 2302 - Kinematics (3)

## Upper-Level Courses (56 credit hours)

**Mathematics Foundation Course (3 credit hours)**
ETGR 3171 - Engineering Analysis III (3)
or MATH 2171 - Differential Equations (3)

**Major Courses (41 credit hours)**
ENGL 2116 - Introduction to Technical Communication (3)
MEET 2100 - Project Design and Management (3)
MEET 2203 – Manufacturing Laboratory (1)
MEET 2222 - Instrumentation and Measurements (3)
MEET 2600 - Professional Development Seminar for Engineering Technologists (1)
MEET 3100 - Junior Design Practicum (3)
MEET 3250 - Fluid Mechanics (3)
MEET 3251 - Principles of Thermal Engineering (3)
MEET 3301 - Strength of Materials (3)
MEET 3301L - Stress Analysis Laboratory (1)
MEET 3302 - Kinetics (3)
MEET 3303 - Machine Design I (3)
MEET 4101 - Senior Design I (2)
MEET 4102 - Senior Design II (2)
MEET 4211 - Applied CAD Modeling and Simulation (3)
MEET 4251 - Thermal Engineering Applications (3)
MEET 4252 - Thermal Fluids Laboratory (1)

**Restricted Elective Courses (12 credit hours)**
AEEE 4000 - Special Topics (1 to 3)
AEEE 4140 - Energy Management (3)
AEEE 4250 - Analysis of Renewable Energy Systems (3)
AEEE 4275 - Building Environmental Systems (3)
AEEE 4290 - Advanced Instrumentation (3)
ETEM 2171 - Algorithms and Programming (3)
ETEM 2271 - Digital Fundamentals (3)
ETEM 3101 - Principles of Control (3)
ETEM 3131 - Electromechanical Devices (3)
ETEM 3171 - Digital Devices (3)
ETEM 3231 - Power, Machines, and Energy (3)
ETEM 3261 - Applied Control Systems (3)
ETEM 4141 - Digital Manufacturing Methods (3)
ETEM 4161 - Elements of Automation (3)
ETFS 3123 - Industrial Hazards and Electricity (3)
ETGR 2230 - Occupational Safety (3)
ETGR 4301 - Environmental Pollution Control (3)
ETGR 4302 - Industrial Hygiene (3)
ETGR 4303 - Applied Ergonomics and Human Factors (3)
MEET 3211 - Advanced CAD Modeling (3)
MEET 4000 - Special Topics in Mechanical Engineering Technology (3)
MEET 4010 - Special Topics in Energy (3)
MEET 4020 - Special Topics in Electromechanical (3)
MEET 4253 - Heating, Ventilating, and Air Conditioning (3)
MEET 4303 - Machine Design II (3)
SEGR 4961 - Introduction to Energy Systems (3)
SEGR 4962 - Energy Markets (3)

**Technical Elective Courses**
If the combination of transfer credit and required upper level courses does not result in at least 120 credit hours, any course in CHEM, MATH, PHYS, STAT, or course offered by a department in the College of Engineering that is not already required for the degree may be used as a Technical Elective for degree completion.

**Grade Requirements**
*Note: Courses marked with * must be completed with a grade of C or above.

## Degree Total = 120 Credit Hours

## Progression Requirements

**First-Year Requirements**
After completing the Common First Year Curriculum (CFY) courses, students will decide on their engineering major for their second through fourth years, which may be the major they initially indicated or any other engineering major. Students must meet the following requirements in order to register for major courses:

**Engineering Majors**
Engineering majors must complete all of the requirements below before enrolling in W.S. Lee College of Engineering sophomore-year engineering courses.

- Pass all courses within two attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1242, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.5 cumulative GPA upon completion of the Common First Year Curriculum courses (2.80 for Mechanical Engineering majors)

**Engineering Technology and Construction Management Majors**
**Civil Engineering Technology**

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Electromechanical Engineering Technology**

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum including MATH 1241 with grade of C or above and PHYS 2101 and PHYS 2101L
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Mechanical Engineering Technology**

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.2 cumulative GPA upon completion of the Common First Year courses

**Construction Management**

- Complete CMET 1400, ETCE 1222, ETCE 1211L, and MATH 1103
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Fire & Safety)**

- Complete ETFS 1152, ETFS 1201, ETFS 1220, ETFS 1244, and MATH 1100
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Occupational Safety)**

- Complete BIOL 1110, ETFS 1201, ETFS 1220, ETGR 2230, MATH 1103, PSYC 1101 and STAT 1220
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

# BSET in Mechanical Engineering Technology *with Concentration in Applied Energy*

A Concentration in Applied Energy is available to BSET in Mechanical Engineering Technology students.

## Admission Requirements

Students for this degree may enter degree programs in the Department of Engineering Technology and Construction Management as First-Year students or as transfer students.

**First-Year Students**
First-year admission is competitive, based upon an overall evaluation of the high school record, with particular emphasis on advanced courses in math and science. See University Admission Requirements for a detailed description of the criteria.

First-Year students may either select a major at the time of their application or may choose to be Engineering-undeclared. All First-Year College of Engineering students will take a common set of courses called the Common First Year. Towards the end of their first year, having completed all progression requirements, students will declare or confirm their Engineering Major for the second through fourth years. This selection may be the major they initially indicated or any other engineering major for which they meet the progression requirements.

**Transfers**
All transfer students will be evaluated for placement into a departmental Program or the Common First Year program based on the evaluation of their transfer credits (consistent with the North Carolina articulation agreements).

- See University Admission Requirements
- Minimum GPA: 2.50 (2.80 for Mechanical Engineering)
- Pre-Major/Prerequisite Courses:
  - Engineering Programs: Calculus I course (equivalent to MATH 1241), with a grade of C or above
  - Engineering Technology Programs: Pre-calculus course (equivalent to MATH 1103) or higher, with a grade of C or above
- Transferable Credit Hours: Minimum of 24

Transfers from an ABET-accredited engineering program who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

**Currently Enrolled Students**
Current UNC Charlotte students who wish to change or declare their major to Mechanical Engineering Technology must:

- Complete the College of Engineering Common First Year (or equivalent courses) in order to be considered eligible for admission. See Common First-Year Courses below.
- Achieve a GPA between 2.2 - 4.0.
- Pass all currently attempted required courses within three attempts including withdrawing from a course with a grade of W.

Upon satisfying all of the above requirements, students may request admission to an ETCM program by submitting the Change of Major form. Completion of the minimum requirements does not guarantee acceptance into a program.

## Common First-Year Curriculum (CFY)

The College of Engineering uses a Common First-Year Curriculum (CFY) for all Engineering students in order to:

- Provide a strong academic base of foundational knowledge and skills
- Facilitate changing majors within the first year
- Support students with lower math placement and increase access to all majors
- Allow students to explore different majors before committing
- Enhance learning with innovative pedagogies and activities

**Common First-Year Courses**
All new first-year students are initially advised by a central office within the W.S. Lee College of Engineering. Students must complete the following classes that are common to all majors of the college (except Construction Management and Fire and Safety Engineering Technology) in order to progress and matriculate to their major department. *All First-Year Curriculum courses require a grade of C or better.*

ENGR 1300 Exploring Engineering & Technology with Success (2)
ENGR 1301 Foundations of Math and Science for Engineering (3)
ENGR 1302 Logic and Computational Problem Solving (3)
ENGR 1303 Engineering Visualization and Graphical Communication (3)
PHYS 2101 (3)
PHYS 2101L (1)
Two MATH courses: MATH 1103* or MATH 1241* or MATH 1242* (3 each)
*See Notes 1 and 2 below*

* All students should consult their advisor to select the math courses that match their planned major.

***Note 1***
Progression into Civil Engineering, Computer Engineering, Construction Engineering, Electrical Engineering, Environmental Engineering, Mechanical Engineering, and Systems Engineering Major Courses after completing the Common First Year Curriculum requires that students also complete MATH 1241, MATH 1242, PHYS 2101, and PHYS 2101L.

***Note 2***
Progression into Civil Engineering Technology, Electromechanical Engineering Technology, and Mechanical Engineering Technology Major Courses after completing the Common First Year Curriculum requires that students complete MATH 1241, PHYS 2101, and PHYS 2101L with a C or better (except for Electromechanical Engineering Technology).

***Note 3***
Students must earn at least a 2.0 GPA in the first semester to continue into the second semester.

## Degree Requirements

The BSET in Mechanical Engineering Technology with Concentration in Applied Energy program consists of 120 credit hours.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**First-Year Courses (21 credit hours)**
See Common First-Year Curriculum (CFY) for details.

**Additional Math and Physics Courses (21 credit hours)**
MATH 1242 - Calculus II (3) *
or ETGR 2272 - Engineering Analysis II (3) *
MATH 2171 - Differential Equations (3)
or ETGR 3171 - Engineering Analysis III (3)
PHYS 1102 - Introductory Physics II (3) *
or PHYS 2102 - Physics for Science and Engineering II (3) *
PHYS 1102L - Introductory Physics II Laboratory (1) *
or PHYS 2102L - Physics for Science and Engineering II Laboratory (1) *

**Major Courses (59 credit hours)**
ENGL 2116 - Introduction to Technical Communication (3)
MEET 2100 - Project Design and Management (3)
MEET 2201 - Applied Engineering Materials (3)
MEET 2202 - Applied Manufacturing (3)
MEET 2203 - Manufacturing Laboratory (1)
MEET 2211 - CAD Fundamentals (3)
MEET 2221 - Circuit Fundamentals (3)
MEET 2222 - Instrumentation and Measurements (3)
MEET 2301 – Statics (3)
MEET 2302 - Kinematics (3)
MEET 2600 - Professional Development Seminar for Engineering Technologists (1)
MEET 3100 - Junior Design Practicum (3)
MEET 3250 - Fluid Mechanics (3)
MEET 3251 - Principles of Thermal Engineering (3)
MEET 3301 - Strength of Materials (3)
MEET 3301L - Stress Analysis Laboratory (1)
MEET 3302 - Kinetics (3)
MEET 3303 - Machine Design I (3)
MEET 4101 - Senior Design I (2)
MEET 4102 - Senior Design II (2)
MEET 4211 - Applied CAD Modeling and Simulation (3)
MEET 4251 - Thermal Engineering Applications (3)
MEET 4252 - Thermal Fluids Laboratory (1)

**Concentration Courses (12 credit hours)**
*Select four of the following:*

AEEE 4140 - Energy Management (3)
AEEE 4250 - Analysis of Renewable Energy Systems (3)
ETEM 3231 - Power, Machines, and Energy (3)
MEET 4010 - Special Topics in Energy (3)
SEGR 4961 - Introduction to Energy Systems (3) *(with approval)*
SEGR 4962 - Energy Markets (3) *(with approval)*

### Grade Requirements
*Note: Courses marked with * must be completed with a grade of C or above.

## Degree Total = 120 Credit Hours

## Progression Requirements
### First-Year Requirements
After completing the Common First Year Curriculum (CFY) courses, students will decide on their engineering major for their second through fourth years, which may be the major they initially indicated or any other engineering major. Students must meet the following requirements in order to register for major courses:

### Engineering Majors
Engineering majors must complete all of the requirements below before enrolling in W.S. Lee College of Engineering sophomore-year engineering courses.
- Pass all courses within two attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1242, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.5 cumulative GPA upon completion of the Common First Year Curriculum courses (2.80 for Mechanical Engineering majors)

### Engineering Technology and Construction Management Majors
### Civil Engineering Technology
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

### Electromechanical Engineering Technology
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum including MATH 1241 with grade of C or above and PHYS 2101 and PHYS 2101L
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

### Mechanical Engineering Technology
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.2 cumulative GPA upon completion of the Common First Year courses

### Construction Management
- Complete CMET 1400, ETCE 1222, ETCE 1211L, and MATH 1103
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

### Fire & Safety Engineering Technology (Fire & Safety)
- Complete ETFS 1152, ETFS 1201, ETFS 1220, ETFS 1244, and MATH 1100
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

### Fire & Safety Engineering Technology (Occupational Safety)
- Complete BIOL 1110, ETFS 1201, ETFS 1220, ETGR 2230, MATH 1103, PSYC 1101 and STAT 1220
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

## Subsequent Progression Requirements
### Sophomore Through Senior Year
- Maintain an overall GPA of 2.00 in the University.
- Maintain a major cumulative GPA of 2.00 for all courses in the departmental curriculum. Failure to meet this requirement for two consecutive semesters will result in not being permitted to enroll in College of Engineering courses.
- Take courses in the curriculum a maximum of three times to achieve a satisfactory grade, including withdrawing from the course with a grade of W.

An undergraduate student who fails to satisfy one or more of the progression requirements stated above, but who nonetheless meets the conditions for continued enrollment in the University, will be ineligible to re-enroll in the College of Engineering unless an appeal is accepted by the College of Engineering. If an appeal is accepted, requirements for continued enrollment appropriate to the individual situation are specified in a "Continuation Agreement" that is mutually agreed upon and signed by the student and their appropriate advisor.

A student who has been suspended by the University must follow University guidelines for appeal. Re-admission to the College of Engineering after a University suspension is not automatic. An application for re-admission must be made by the student and approved by the College/department. Students who are re-admitted by the College of Engineering after suspension by the University must meet

requirements for continued enrollment appropriate to their individual situation. These requirements are specified in a "Continuation Agreement" that is mutually agreed upon and signed by the student and their appropriate advisor. The consequences of failure to meet the requirements of the agreement may be articulated in the agreement itself. However, if these consequences are not included in the agreement, failure to meet the requirements will automatically result in the student not being permitted to continue to enroll in College of Engineering courses.

# BSET in Mechanical Engineering Technology *with Concentration in Electromechanical Systems*

A Concentration in Electromechanical Systems is available to BSET in Mechanical Engineering Technology students.

## Admission Requirements

Students for this degree may enter degree programs in the Department of Engineering Technology and Construction Management as First-Year students or as transfer students.

### First-Year Students

First-year admission is competitive, based upon an overall evaluation of the high school record, with particular emphasis on advanced courses in math and science. See University Admission Requirements for a detailed description of the criteria.

First-Year students may either select a major at the time of their application or may choose to be Engineering-undeclared. All First-Year College of Engineering students will take a common set of courses called the Common First Year. Towards the end of their first year, having completed all progression requirements, students will declare or confirm their Engineering Major for the second through fourth years. This selection may be the major they initially indicated or any other engineering major for which they meet the progression requirements.

### Transfers

All transfer students will be evaluated for placement into a departmental Program or the Common First Year program based on the evaluation of their transfer credits (consistent with the North Carolina articulation agreements).

- See University Admission Requirements
- Minimum GPA: 2.50 (2.80 for Mechanical Engineering)
- Pre-Major/Prerequisite Courses:
  - Engineering Programs: Calculus I course (equivalent to MATH 1241), with a grade of C or above
  - Engineering Technology Programs: Pre-calculus course (equivalent to MATH 1103) or higher, with a grade of C or above
- Transferable Credit Hours: Minimum of 24

Transfers from an ABET-accredited engineering program who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

### Currently Enrolled Students

Current UNC Charlotte students who wish to change or declare their major to Mechanical Engineering Technology must:

- Complete the College of Engineering Common First Year (or equivalent courses) in order to be considered eligible for admission. See Common First-Year Courses below.
- Achieve a GPA between 2.2 - 4.0.
- Pass all currently attempted required courses within three attempts including withdrawing from a course with a grade of W.

Upon satisfying all of the above requirements, students may request admission to an ETCM program by submitting the Change of Major form. Completion of the minimum requirements does not guarantee acceptance into a program.

## Common First-Year Curriculum (CFY)

The College of Engineering uses a Common First-Year Curriculum (CFY) for all Engineering students in order to:

- Provide a strong academic base of foundational knowledge and skills
- Facilitate changing majors within the first year
- Support students with lower math placement and increase access to all majors
- Allow students to explore different majors before committing
- Enhance learning with innovative pedagogies and activities

### Common First-Year Courses

All new first-year students are initially advised by a central office within the W.S. Lee College of Engineering. Students must complete the following classes that are common to all majors of the college (except Construction Management and Fire and Safety Engineering Technology) in order to progress and matriculate to their major department. *All First-Year Curriculum courses require a grade of C or better.*

ENGR 1300 Exploring Engineering & Technology with Success (2)
ENGR 1301 Foundations of Math and Science for Engineering (3)
ENGR 1302 Logic and Computational Problem Solving (3)
ENGR 1303 Engineering Visualization and Graphical Communication (3)
PHYS 2101 (3)
PHYS 2101L (1)
Two MATH courses: MATH 1103* or MATH 1241* or MATH 1242* (3 each)
*See Notes 1 and 2 below*

* All students should consult their advisor to select the math courses that match their planned major.

***Note 1***

Progression into Civil Engineering, Computer Engineering, Construction Engineering, Electrical Engineering, Environmental Engineering, Mechanical Engineering, and Systems Engineering Major Courses after completing the Common First Year Curriculum requires that students also complete MATH 1241, MATH 1242, PHYS 2101, and PHYS 2101L.

***Note 2***

Progression into Civil Engineering Technology, Electromechanical Engineering Technology, and Mechanical Engineering Technology Major Courses after completing the Common First Year Curriculum requires that

students complete MATH 1241, PHYS 2101, and PHYS 2101L with a C or better (except for Electromechanical Engineering Technology).

***Note 3***
Students must earn at least a 2.0 GPA in the first semester to continue into the second semester.

## Degree Requirements

The BSET in Mechanical Engineering Technology with Concentration in Electromechanical Systems program consists of 120 credit hours.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**First-Year Courses (21 credit hours)**
See Common First-Year Curriculum (CFY) for details.

**Additional Math and Science Courses (10 credit hours)**
ETGR 2272 - Engineering Analysis II (3) *
or MATH 1242 - Calculus II (3)
ETGR 3171 - Engineering Analysis III (3)
MATH 2171 - Differential Equations (3)
PHYS 1102 - Introductory Physics II (3) *
or PHYS 2102 - Physics for Science and Engineering II (3) *
PHYS 1102L - Introductory Physics II Laboratory (1) *
or PHYS 2102L - Physics for Science and Engineering II Laboratory (1) *

**Major Courses (56 credit hours)**
ENGL 2116 - Introduction to Technical Communication (3)
MEET 2100 - Project Design and Management (3)
MEET 2201 - Applied Engineering Materials (3)
MEET 2202 - Applied Manufacturing (3)
MEET 2203 - Manufacturing Laboratory (1)
MEET 2211 - CAD Fundamentals (3)
MEET 2221 - Circuit Fundamentals (3)
MEET 2301 – Statics (3)
MEET 2302 - Kinematics (3)
MEET 2600 - Professional Development Seminar for Engineering T Technologists (1)
MEET 3100 - Junior Design Practicum (3)
MEET 3250 - Fluid Mechanics (3)
MEET 3251 - Principles of Thermal Engineering (3)
MEET 3301 - Strength of Materials (3)
MEET 3301L - Stress Analysis Laboratory (1)
MEET 3302 - Kinetics (3)
MEET 3303 - Machine Design I (3)
MEET 4101 - Senior Design I (2)
MEET 4102 - Senior Design II (2)
MEET 4211 - Applied CAD Modeling and Simulation (3)
MEET 4251 - Thermal Engineering Applications (3)
MEET 4252 - Thermal Fluids Laboratory (1)

**Concentration Courses (12 credit hours)**
***Concentration Required Courses (3 credit hours)***
MEET 2222 - Instrumentation and Measurements (3)

***Concentration Elective Courses (9 credit hours)***
*Select three of the following:*
AEEE 4290 - Advanced Instrumentation (3)
ETEM 2171 - Algorithms and Programming (3)
ETEM 2271 - Digital Fundamentals (3)
ETEM 3101 - Principles of Control (3)
ETEM 3131 - Electromechanical Devices (3)
ETEM 3171 - Digital Devices (3)
ETEM 3231 - Power, Machines, and Energy (3)
ETEM 3261 - Applied Control Systems (3)
ETEM 4141 - Digital Manufacturing Methods (3)
ETEM 4161 - Elements of Automation (3)
MEET 4020 - Special Topics in Electromechanical (3)

**Restricted Elective Courses (3 credit hours)**
*Select one of the following courses not already taken for concentration credit:*
AEEE 4000 - Special Topics (1 to 3)
AEEE 4140 - Energy Management (3)
AEEE 4250 - Analysis of Renewable Energy Systems (3)
AEEE 4275 - Building Environmental Systems (3)
AEEE 4290 - Advanced Instrumentation (3)
ETEM 2171 - Algorithms and Programming (3)
ETEM 2271 - Digital Fundamentals (3)
ETEM 3101 - Principles of Control (3)
ETEM 3131 - Electromechanical Devices (3)
ETEM 3171 - Digital Devices (3)
ETEM 3231 - Power, Machines, and Energy (3)
ETEM 3261 - Applied Control Systems (3)
ETEM 4141 - Digital Manufacturing Methods (3)
ETEM 4161 - Elements of Automation (3)
ETFS 3123 - Industrial Hazards and Electricity (3)
ETGR 2230 - Occupational Safety (3)
ETGR 4301 - Environmental Pollution Control (3)
ETGR 4302 - Industrial Hygiene (3)
ETGR 4303 - Applied Ergonomics and Human Factors (3)
MEET 3211 - Advanced CAD Modeling (3)
MEET 4000 - Special Topics in Mechanical Engineering Technology (3)
MEET 4010 - Special Topics in Energy (3)
MEET 4020 - Special Topics in Electromechanical (3)
MEET 4253 - Heating, Ventilating, and Air Conditioning (3)
MEET 4303 - Machine Design II (3)
SEGR 4961 - Introduction to Energy Systems (3)
SEGR 4962 - Energy Markets (3)

**Grade Requirements**
*Note: Courses marked with * must be completed with a grade of C or above.

## Degree Total = 120 Credit Hours

## Progression Requirements

**First-Year Requirements**
After completing the Common First Year Curriculum (CFY) courses, students will decide on their engineering major for their second through fourth years, which may be the major they initially indicated or any other engineering major. Students must meet the following requirements in order to register for major courses:

**Engineering Majors**
Engineering majors must complete all of the requirements below before enrolling in W.S. Lee College of Engineering sophomore-year engineering courses.

- Pass all courses within two attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1242, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.5 cumulative GPA upon completion of the Common First Year Curriculum courses (2.80 for Mechanical Engineering majors)

**Engineering Technology and Construction Management Majors**
**Civil Engineering Technology**

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Electromechanical Engineering Technology**

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum including MATH 1241 with grade of C or above and PHYS 2101 and PHYS 2101L
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Mechanical Engineering Technology**

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.2 cumulative GPA upon completion of the Common First Year courses

**Construction Management**

- Complete CMET 1400, ETCE 1222, ETCE 1211L, and MATH 1103
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Fire & Safety)**

- Complete ETFS 1152, ETFS 1201, ETFS 1220, ETFS 1244, and MATH 1100
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Occupational Safety)**

- Complete BIOL 1110, ETFS 1201, ETFS 1220, ETGR 2230, MATH 1103, PSYC 1101 and STAT 1220
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

## Subsequent Progression Requirements

**Sophomore Through Senior Year**

- Maintain an overall GPA of 2.00 in the University.
- Maintain a major cumulative GPA of 2.00 for all courses in the departmental curriculum. Failure to meet this requirement for two consecutive semesters will result in not being permitted to enroll in College of Engineering courses.
- Take courses in the curriculum a maximum of three times to achieve a satisfactory grade, including withdrawing from the course with a grade of W.

An undergraduate student who fails to satisfy one or more of the progression requirements stated above, but who nonetheless meets the conditions for continued enrollment in the University, will be ineligible to re-enroll in the College of Engineering unless an appeal is accepted by the College of Engineering. If an appeal is accepted, requirements for continued enrollment appropriate to the individual situation are specified in a "Continuation Agreement" that is mutually agreed upon and signed by the student and their appropriate advisor.

A student who has been suspended by the University must follow University guidelines for appeal. Re-admission to the College of Engineering after a University suspension is not automatic. An application for re-admission must be made by the student and approved by the College/department. Students who are re-admitted by the College of Engineering after suspension by the University must meet requirements for continued enrollment appropriate to their individual situation. These requirements are specified in a "Continuation Agreement" that is mutually agreed upon and signed by the student and their appropriate advisor. The consequences of failure to meet the requirements of the agreement may be articulated in the agreement itself. However, if these consequences are not included in the agreement, failure to meet the requirements will automatically result in the student not being permitted to continue to enroll in College of Engineering courses.

# Early Entry: Master of Science in Applied Energy and Electromechanical Engineering

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.20 overall undergraduate GPA
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

### Progression Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.00 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree.

### Special Policies or Requirements

Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# Department of Industrial and Systems Engineering

**seem.charlotte.edu**

## Undergraduate Programs

- **B.S. in Systems Engineering (BSSE)**
  - **Energy Systems**
- **Early Entry: M.S. in Engineering Management**

The main objective of the Department of Industrial and Systems Engineering is to equip graduates with the essential Systems Engineering skills that are needed in industry to enable them to perform in a global engineering environment. These skills include:

- Decision and Risk Analysis
- Systems Modeling and Optimization
- Systems Design, Planning, and Analysis
- Supply Chain and Logistics Engineering
- Quality Engineering
- Engineering Management
- Energy Systems Design and Planning
- Communication and Presentation
- Understanding of Global Business Dynamics

These objectives are accomplished through a flexible curriculum and through interactions with other departments and colleges of the University and with the professional community.

> *"Systems Engineering is an engineering discipline whose responsibility is creating and executing an interdisciplinary process to ensure that the customers' and stakeholders' needs are satisfied in a high quality, trustworthy, cost-efficient and schedule-compliant manner throughout a system's entire life cycle." (INCOSE, 2007)*

Systems Engineering as an engineering field has very broad applications in a wide variety of industries including energy, telecommunications, construction, manufacturing, transportation and distribution, information technology, financial services, automotive, retail, healthcare and airlines, at all levels from an entry position to top management. This wide applicability, along with a very strong focus to model, analyze and manage complex engineered systems with proven tools and techniques are the primary strengths of SE. Practically every organization requires Systems Engineers to identify, characterize, and solve the right problems and to eliminate inefficiencies and root-causes that generate these problems.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

## Degree Programs

The department offers a Bachelor of Science in Systems Engineering (BSSE) degree and a Master of Science in Engineering Management (MSEM) degree. For information about the master's program, see the *UNC Charlotte Graduate Catalog*.

Concentrations and technical and liberal studies electives allow flexibility for study in specific areas. Each student may design a technical elective program with his or her advisor's approval in order to achieve individual goals and follow a desired track.

Qualified students may apply for Early Entry into the graduate program in Engineering Management during their Junior or Senior year. If accepted, students may take optional courses for graduate credit and begin work on their master's degree while completing their undergraduate degree.

## Student Outcomes

Upon graduation, our students will have:

1) An ability to apply knowledge of mathematics, science, and engineering to identify, formulate, and solve complex engineering problems.
2) An ability to apply the engineering design process to create thermal or mechanical systems that meet specified application goals with consideration for public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3) An ability to communicate effectively with a range of audiences through oral and technical writing.
4) An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5) A record of productive participation as team members or in leadership roles on multidisciplinary teams which create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6) An ability to develop experimental protocols and perform experiments designed to test or verify mechanical principles, components, and properties; analyze results; interpret data; and use engineering judgment to draw conclusions.
7) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

## Accreditation

The Bachelor of Science in Systems Engineering (BSSE) degree program within the Industrial and Systems Engineering Department at The University of North Carolina at Charlotte is accredited by the Engineering Accreditation Commission of ABET, www.abet.org.

# Bachelor of Science in Systems Engineering (B.S.S.E.)

## Admission Requirements

### First-Year Students

First-year admission is competitive, based upon an overall evaluation of the high school record, with particular emphasis on advanced courses in math and science. See University Admission Requirements for a detailed description of the criteria.

First-Year students may either select a major at the time of their application or may choose to be Engineering-undeclared. All First-Year College of Engineering students will take a common set of courses called the Common First Year. Towards the end of their first year, having completed all progression requirements, students will declare or confirm their Engineering Major for the second through fourth years. This selection may be the major they initially indicated or any other engineering major for which they meet the progression requirements.

### Transfers

All transfer students will be evaluated for placement into a departmental Program or the Common First Year program based on the evaluation of their transfer credits (consistent with the North Carolina articulation agreements).

- See University Admission Requirements
- Minimum GPA: 2.50 (2.80 for Mechanical Engineering)
- Pre-Major/Prerequisite Courses:
  - Engineering Programs: Calculus I course (equivalent to MATH 1241), with a grade of C or above
  - Engineering Technology Programs: Pre-calculus course (equivalent to MATH 1103) or higher, with a grade of C or above
- Transferable Credit Hours: Minimum of 24

Transfers from an ABET-accredited engineering program who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

### Currently Enrolled Students

### Internal Change of Major

Internal change of majors within the College of Engineering must have a minimum GPA of 2.50 (2.80 for Mechanical Engineering). Students who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

### Change of Major Into a Program in the College of Engineering

First-time college students who seek eligibility for a change of major from a non-engineering major into an engineering program are required to:

- Complete the First-Year Curriculum.
- Have no more than two attempts per course, including withdrawing from a course with a grade of W.
- Achieve an overall GPA of 2.50 (2.80 for Mechanical Engineering).

### Students Seeking Eligibility for a Change of Major

- Should continue to be advised by their current advisor.
- Should focus on successfully completing courses that count towards the program of interest and not rely on grades in unrelated courses

to elevate the GPA.
- Are not permitted to enroll in Sophomore engineering courses.
- May request authorization to enroll in ENGR 1300, ENGR 1301, ENGR 1302 or ENGR 1303 via a request to the College of Engineering Advising department at osds-advising@charlotte.edu.

**Transfers Seeking Eligibility for a Change of Major**
Students who transfer to Charlotte into a non-engineering major and have not met the Transfer Requirements for a given engineering program are not guaranteed to be considered for a change of major. Representatives of the program of interest make decisions on a student's eligibility to pursue a change of major based on a holistic review of a student's entire academic record, including grades earned at other institutions. A record of unsuccessful attempts in courses will weigh negatively on such decisions. If transfer students are allowed to pursue eligibility for a change of major to a given program, they will be required to:

- Complete the Common First-Year Curriculum.
- Have no more than two attempts per course including withdrawing from a course with a grade of W.
- Achieve an overall GPA of 2.50 (2.80 for Mechanical Engineering).
- Complete at least 12 credits of courses at Charlotte, including at least four courses in math, science and/or engineering.

## Common First-Year Curriculum (CFY)
The College of Engineering uses a Common First-Year Curriculum (CFY) for all Engineering students in order to:

- Provide a strong academic base of foundational knowledge and skills
- Facilitate changing majors within the first year
- Support students with lower math placement and increase access to all majors
- Allow students to explore different majors before committing
- Enhance learning with innovative pedagogies and activities

**Common First-Year Courses**
All new first-year students are initially advised by a central office within the W.S. Lee College of Engineering. Students must complete the following classes that are common to all majors of the college (except Construction Management and Fire and Safety Engineering Technology) in order to progress and matriculate to their major department. *All First-Year Curriculum courses require a grade of C or better.*

ENGR 1300 Exploring Engineering & Technology with Success (2)
ENGR 1301 Foundations of Math and Science for Engineering (3)
ENGR 1302 Logic and Computational Problem Solving (3)
ENGR 1303 Engineering Visualization and Graphical Communication (3)
PHYS 2101 (3)
PHYS 2101L (1)
Two MATH courses: MATH 1103* or MATH 1241* or MATH 1242* (3 each)
*See Notes 1 and 2 below*

* All students should consult their advisor to select the math courses that match their planned major.

***Note 1***
Progression into Civil Engineering, Computer Engineering, Construction Engineering, Electrical Engineering, Environmental Engineering, Mechanical Engineering, and Systems Engineering Major Courses after completing the Common First Year Curriculum requires that students also complete MATH 1241, MATH 1242, PHYS 2101, and PHYS 2101L.

***Note 2***
Progression into Civil Engineering Technology, Electromechanical Engineering Technology, and Mechanical Engineering Technology Major Courses after completing the Common First Year Curriculum requires that students complete MATH 1241, PHYS 2101, and PHYS 2101L with a C or better (except for Electromechanical Engineering Technology).

***Note 3***
Students must earn at least a 2.0 GPA in the first semester to continue into the second semester.

## Degree Requirements
A Major in Systems Engineering leading to the BSSE degree consists of 120 credit hours.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**First-Year Courses (21 credit hours)**
See Common First-Year Curriculum (CFY) for details.

**Major Courses (44 credit hours)**
ENGR 3295 - Multidisciplinary Professional Development (1)
SEGR 2105 - Computational Methods for Systems Engineering I (3)
SEGR 2106 - Engineering Economic Analysis (3)
SEGR 2110 - Systems Engineering Concepts (3)
SEGR 3102 - System Simulation, Modeling, and Analysis (3)
SEGR 3105 - Computational Methods for Systems Engineering II (3)
SEGR 3107 - Decision and Risk Analysis (3)
SEGR 3110 - System Design and Deployment (3)
SEGR 3111 - Project Management (3)
SEGR 3201 - Operations Research I: Deterministic Models (3)
SEGR 3202 - Operations Research II: Stochastic Models (3)
SEGR 3290 - Systems Design Project I (2)
SEGR 3291 - Systems Design Project II (2)
SEGR 4114 - Production Control Systems (3)
SEGR 4141 - Engineering Experimental Design (3)
SEGR 4170 - Total Quality Systems (3)

**Foundation Courses (16 credit hours)**
MATH 2241 – Calculus III (3)
MATH 2164 - Matrices and Linear Algebra (3)
MATH 2171 - Differential Equations (3)
PHYS 2102 - Physics for Science and Engineering II (3)
PHYS 2102L - Physics for Science and Engineering II Lab (1)
STAT 3128 – Probability and Statistics for Engineers (3)

**Restricted Elective Courses (21 credit hours)**
***Physical Science Elective Course (3 credit hours)***

Students must select one of the following physical science courses to fulfill the requirements for the First-Year engineering curriculum. It must complement the student's overall educational plan. Other courses with significant physical science content that are not listed may fulfill the requirement, but require the approval of the Undergraduate Program Director.

BIOL 1110 - Principles of Biology I (3)
BIOL 2120 - General Biology I (3)
CHEM 1200 - Fundamentals of Chemistry (3)
ESCI 1101 - Earth Sciences-Geography (3)
GEOL 1200 - Physical Geology (3)
PHYS 1102 - Introductory Physics II (3)
PHYS 1130 - Introduction to Astronomy (3)
PHYS 1201 - Sports and Physics (3)
PHYS 1202 - Introduction to Physics in Medicine (3)
PHYS 1203 - Physics of Music (3)

**Systems Engineering Technical Elective Courses (18 credit hours)**

***Technical Elective Courses (6 credit hours)***

BSSE students must complete 6 credit hours of technical elective courses approved by their advisor to fulfill the requirements for their BSSE degree. The technical electives are meant to both broaden the student's technical capabilities and complement the student's core BSSE course requirements. Technical elective courses cannot be used to fulfill both the Technical Elective requirements and the Additional Technical Elective requirements (i.e., no double counting of course credit hours toward the BSSE degree). In addition to SEGR courses, the courses below from outside the Department of Industrial and Systems Engineering are approved as technical elective courses. Please note that many of these courses may also have prerequisites.

SEGR 2XXX - Systems Engineering Elective (3)
SEGR 3XXX - Systems Engineering Elective (3)
SEGR 4XXX - Systems Engineering Elective (3)
ACCT 2121 - Principles of Accounting I (3)
ACCT 2122 - Principles of Accounting II (3)
CEGR 3122 - Structural Analysis (3)
CEGR 3141 - Introduction to Environmental Engineering (3)
CEGR 3153 - Transportation Laboratory (2)
CEGR 3155 - Environmental Laboratory (2)
CEGR 3161 - Transportation Engineering I (3)
CEGR 4108 - Finite Element Analysis and Applications (3)
CEGR 4161 - Advanced Traffic Engineering (3)
CEGR 4162 - Transportation Planning (3)
CEGR 4171 - Urban Public Transportation (3)
CEGR 4181 - Human Factors in Traffic Engineering (3)
CEGR 4262 - Traffic Engineering (3)
ECGR 2111 - Network Theory I (3)
ECGR 2112 - Network Theory II (3)
ECGR 2155 - Instrumentation and Networks Laboratory (1)
ECGR 2156 - Logic and Networks Laboratory (1)
ECGR 2161 - Basic Electrical Engineering I (3)
ECGR 2181 - Logic Systems Design (3)
ECGR 3123 - Data Communications and Networking (3)
ECGR 3131 - Fundamentals of Electronics and Semiconductors (3)
ECON 2102 - Principles of Economics - Micro (3)
ECON 3125 - Managerial Economics (3)
ECON 4181 - Environmental Economics (3)
ESCI 3180 - Environmental Impact Analysis (3)
FINN 3120 - Financial Management (3)
FINN 3220 - Financial Analysis (3)
FINN 3223 - International Financial Management (3)
FINN 3271 - Principles of Risk Management and Insurance (3)
FINN 4275 - Corporate Risk Management (3)
GEOG 4103 - Computer Programming for GIS Applications (3)
GEOG 4110 - GIS for Non-Majors (3)
GEOG 4130 - Advanced Geographic Information Systems (4)
GEOG 4140 - Geographic Information Techniques for Community Planning (4)
GEOG 4155 - Retail Location (3)
GEOG 4210 - Urban Planning Methods (3)
GEOG 4255 - Applied Population Analysis (3)
GEOG 4260 - Transportation Policy Formulation (3)
GEOG 4265 - Transportation Analysis Methods (3)
INFO 2130 - Introduction to Business Computing (3)
INFO 2231 - Introduction to Business Programming (3)
INFO 3130 - Management Information Systems (3)
INFO 3232 - International Information Systems Management (3)
INFO 3233 - Data and Information Management (3)
ITCS 4122 - Visual Analytics (3)
ITCS 4156 - Introduction to Machine Learning (3)
MATH 2342 - Data Analysis and Probability (3)
MATH 3116 - Graph Theory (3)
MATH 3166 - Combinatorics (3)
MATH 3176 - Numerical Analysis (3)
MATH 3228 - Actuarial Science IB (3)
MATH 3229 - Actuarial Science IIA (3)
MATH 4128 - Risk Theory (3)
MEGR 2141 - Engineering Mechanics I (3)
MEGR 2144 - Introduction to Solid Mechanics (3)
MEGR 2180 - Manufacturing Systems (3)
MEGR 3111 - Thermodynamics I (3)
MEGR 3112 - Thermodynamics II (3)
MEGR 3116 - Introduction to Heat Transfer (3)
MEGR 3121 - Dynamics Systems I (3)
MEGR 3122 - Dynamic Systems II (3)
MEGR 3161 - Introduction to Engineering Materials (3)
MEGR 3162 - Mechanical Behavior and Strengthening of Solids (3)
MEGR 3171 - Introduction to Measurements and Instrumentation (2)
MEGR 3171L - Instrumentation Laboratory (2)
MEGR 3225 - Introduction to Finite Element Analysis (3)
MEGR 3282 - Data-Driven Quality Engineering and Metrology (3)
MEGR 4127 - Introduction to Robotics (3)
MGMT 3140 - Management and Organizational Behavior (3)
MGMT 3241 - Acquiring and Maintaining Talent (3)
MGMT 3260 - Managerial Communication (3)
MGMT 3274 - International Business Processes and Problems (3)
MKTG 3110 - Marketing Concepts (3)
OPER 3100 - Operations Management (3)
OPER 3204 - Management of Service and Project Operations (3)
OPER 3208 - Supply Chain Management (3)
OPRS 4113 - Game Theory (3)
OPRS 4114 - Dynamic Programming (3)
STAT 3150 - Time Series Analysis (3)
STAT 3160 - Applied Multivariate Analysis (3)
STAT 4116 - Statistical Computing (3)

***Additional Technical Elective Courses (12 credit hours)***
BSSE students can pursue an optional Concentration in Energy Systems. Students who are not enrolled in a concentration are considered undeclared and select four additional Systems Engineering Technical Elective courses from the list above to fulfill their BSSE degree requirements. Any elective course listed above at the 3000- or 4000-level may be taken. However, these elective courses cannot be used to fulfill both the Technical Elective requirements and the Additional Technical Elective requirements (i.e., no double counting of course credit hours toward the BSSE degree). Please note that many of these courses may also have prerequisites.

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 credit hours

## Progression Requirements
After completing the Common First Year Curriculum (CFY) courses, students will decide on their engineering major for their second through fourth years, which may be the major they initially indicated or any other engineering major. Students must meet the following requirements in order to register for major courses:

**Engineering Majors**
Engineering majors must complete all of the requirements below before enrolling in W.S. Lee College of Engineering sophomore-year engineering courses.
- Pass all courses within two attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1242, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.5 cumulative GPA upon completion of the Common First Year Curriculum courses (2.80 for Mechanical Engineering majors)

**Engineering Technology and Construction Management Majors**
**Civil Engineering Technology**
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Electromechanical Engineering Technology**
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum including MATH 1241 with grade of C or above and PHYS 2101 and PHYS 2101L
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Mechanical Engineering Technology**
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.2 cumulative GPA upon completion of the Common First Year courses

**Construction Management**
- Complete CMET 1400, ETCE 1222, ETCE 1211L, and MATH 1103
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Fire & Safety)**
- Complete ETFS 1152, ETFS 1201, ETFS 1220, ETFS 1244, and MATH 1100
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Occupational Safety)**
- Complete BIOL 1110, ETFS 1201, ETFS 1220, ETGR 2230, MATH 1103, PSYC 1101 and STAT 1220
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

# Bachelor of Science in Systems Engineering (B.S.S.E.) *with Concentration in Energy Systems*

## Admission Requirements
**First-Year Students**
First-year admission is competitive, based upon an overall evaluation of the high school record, with particular emphasis on advanced courses in math and science. See University Admission Requirements for a detailed description of the criteria.

First-Year students may either select a major at the time of their application or may choose to be Engineering-undeclared. All First-Year College of Engineering students will take a common set of courses called the Common First Year. Towards the end of their first year, having completed all progression requirements, students will declare or confirm

their Engineering Major for the second through fourth years. This selection may be the major they initially indicated or any other engineering major for which they meet the progression requirements.

### Transfers

All transfer students will be evaluated for placement into a departmental Program or the Common First Year program based on the evaluation of their transfer credits (consistent with the North Carolina articulation agreements).

- See University Admission Requirements
- Minimum GPA: 2.50 (2.80 for Mechanical Engineering)
- Pre-Major/Prerequisite Courses:
  - Engineering Programs: Calculus I course (equivalent to MATH 1241), with a grade of C or above
  - Engineering Technology Programs: Pre-calculus course (equivalent to MATH 1103) or higher, with a grade of C or above
- Transferable Credit Hours: Minimum of 24

Transfers from an ABET-accredited engineering program who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

### Currently Enrolled Students

### Internal Change of Major

Internal change of majors within the College of Engineering must have a minimum GPA of 2.50 (2.80 for Mechanical Engineering). Students who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

### Change of Major Into a Program in the College of Engineering

First-time college students who seek eligibility for a change of major from a non-engineering major into an engineering program are required to:

- Complete the First-Year Curriculum.
- Have no more than two attempts per course, including withdrawing from a course with a grade of W.
- Achieve an overall GPA of 2.50 (2.80 for Mechanical Engineering).

### Students Seeking Eligibility for a Change of Major

- Should continue to be advised by their current advisor.
- Should focus on successfully completing courses that count towards the program of interest and not rely on grades in unrelated courses to elevate the GPA.
- Are not permitted to enroll in Sophomore engineering courses.
- May request authorization to enroll in ENGR 1300, ENGR 1301, ENGR 1302 or ENGR 1303 via a request to the College of Engineering Advising department at osds-advising@charlotte.edu.

### Transfers Seeking Eligibility for a Change of Major

Students who transfer to Charlotte into a non-engineering major and have not met the Transfer Requirements for a given engineering program are not guaranteed to be considered for a change of major. Representatives of the program of interest make decisions on a student's eligibility to pursue a change of major based on a holistic review of a student's entire academic record, including grades earned at other institutions. A record of unsuccessful attempts in courses will weigh negatively on such decisions. If transfer students are allowed to pursue eligibility for a change of major to a given program, they will be required to:

- Complete the Common First-Year Curriculum.
- Have no more than two attempts per course including withdrawing from a course with a grade of W.
- Achieve an overall GPA of 2.50 (2.80 for Mechanical Engineering).
- Complete at least 12 credits of courses at Charlotte, including at least four courses in math, science and/or engineering.

## Common First-Year Curriculum (CFY)

The College of Engineering uses a Common First-Year Curriculum (CFY) for all Engineering students in order to:

- Provide a strong academic base of foundational knowledge and skills
- Facilitate changing majors within the first year
- Support students with lower math placement and increase access to all majors
- Allow students to explore different majors before committing
- Enhance learning with innovative pedagogies and activities

### Common First-Year Courses

All new first-year students are initially advised by a central office within the W.S. Lee College of Engineering. Students must complete the following classes that are common to all majors of the college (except Construction Management and Fire and Safety Engineering Technology) in order to progress and matriculate to their major department. *All First-Year Curriculum courses require a grade of C or better.*

ENGR 1300 Exploring Engineering & Technology with Success (2)
ENGR 1301 Foundations of Math and Science for Engineering (3)
ENGR 1302 Logic and Computational Problem Solving (3)
ENGR 1303 Engineering Visualization and Graphical Communication (3)
PHYS 2101 (3)
PHYS 2101L (1)
Two MATH courses: MATH 1103* or MATH 1241* or MATH 1242* (3 each)
*See Notes 1 and 2 below*

* All students should consult their advisor to select the math courses that match their planned major.

### *Note 1*

Progression into Civil Engineering, Computer Engineering, Construction Engineering, Electrical Engineering, Environmental Engineering, Mechanical Engineering, and Systems Engineering Major Courses after completing the Common First Year Curriculum requires that students also complete MATH 1241, MATH 1242, PHYS 2101, and PHYS 2101L.

### *Note 2*

Progression into Civil Engineering Technology, Electromechanical Engineering Technology, and Mechanical Engineering Technology Major Courses after completing the Common First Year Curriculum requires that students complete MATH 1241, PHYS 2101, and PHYS 2101L with a C or better (except for Electromechanical Engineering Technology).

### *Note 3*

Students must earn at least a 2.0 GPA in the first semester to continue into the second semester.

## Degree Requirements

A Major in Systems Engineering leading to the BSSE degree consists of 120 credit hours. BSSE students can select this optional concentration by the end of their Sophomore year.

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**First-Year Courses (21 credit hours)**

See Common First-Year Curriculum (CFY) for details.

**Major Courses (44 credit hours)**

ENGR 3295 – Multidisciplinary Professional Development (1)
SEGR 2105 - Computational Methods for Systems Engineering I (3)
SEGR 2106 - Engineering Economics Analysis (3)
SEGR 2110 - Systems Engineering Concepts (3)
SEGR 3102 - Systems Stimulation, Modeling, and Analysis (3)
SEGR 3105 - Computational Methods for Systems Engineering II (3)
SEGR 3107 - Decision and Risk Analysis (3)
SEGR 3110 - System Design and Deployment (3)
SEGR 3111 - Project Management (3)
SEGR 3201 - Operations Research I: Deterministic Models (3)
SEGR 3202 - Operations Research II: Stochastic Models (3)
SEGR 3290 - Systems Design Project I (2)
SEGR 3291 - Systems Design Project II (2)
SEGR 4114 - Production Control Systems (3)
SEGR 4141 - Engineering Experimental Design (3)
SEGR 4170 - Total Quality Systems (3)

**Foundation Courses (16 credit hours)**

MATH 2241 – Calculus III (3)
MATH 2164 - Matrices and Linear Algebra (3)
MATH 2171 - Differential Equations (3)
PHYS 2102 - Physics for Science and Engineering II (3)
PHYS 2102L - Physics for Science and Engineering II Lab (1)
STAT 3128 - Probability and Statistics for Engineers (3)

**Restricted Elective Courses (9 credit hours)**

***Physical Science Elective Course (3 credit hours)***

Students must select one of the following physical science courses to fulfill the requirements for the First-Year engineering curriculum. It must complement the student's overall educational plan. Other courses with significant physical science content that are not listed may fulfill the requirement, but require the approval of the Undergraduate Program Director.

BIOL 1110 - Principles of Biology I (3)
BIOL 2120 - General Biology I (3)
CHEM 1200 - Fundamentals of Chemistry (3)
ESCI 1101 - Earth Sciences-Geography (3)
GEOL 1200 - Physical Geology (3)
PHYS 1101 - Introductory Physics I (3)
PHYS 1102 - Introductory Physics II (3)
PHYS 1130 - Introduction to Astronomy (3)
PHYS 1201 - Sports and Physics (3)
PHYS 1202 - Introduction to Physics in Medicine (3)
PHYS 1203 - Physics of Music (3)

***Technical Elective Courses (6 credit hours)***

BSSE students must complete 6 credit hours of technical elective courses approved by their advisor to fulfill the requirements for their BSSE degree. The technical electives are meant to both broaden the student's technical capabilities and complement the student's core BSSE course requirements. Technical elective courses cannot be used to fulfill both the Technical Elective requirements and the Additional Technical Elective requirements (i.e., no double counting of course credit hours toward the BSSE degree). In addition to SEGR courses, the courses below from outside the Department of Industrial and Systems Engineering are approved as technical elective courses. Please note that many of these courses may also have prerequisites.

Any SEGR course at the 2000-, 3000-, or 4000- level
ACCT 2121 - Principles of Accounting I (3)
ACCT 2122 - Principles of Accounting II (3)
CEGR 3122 - Structural Analysis (3)
CEGR 3141 - Introduction to Environmental Engineering (3)
CEGR 3153 - Transportation Laboratory (2)
CEGR 3155 - Environmental Laboratory (2)
CEGR 3161 - Transportation Engineering I (3)
CEGR 4108 - Finite Element Analysis and Applications (3)
CEGR 4161 - Advanced Traffic Engineering (3)
CEGR 4162 - Transportation Planning (3)
CEGR 4171 - Urban Public Transportation (3)
CEGR 4181 - Human Factors in Traffic Engineering (3)
CEGR 4262 - Traffic Engineering (3)
ECGR 2111 - Network Theory I (3)
ECGR 2112 - Network Theory II (3)
ECGR 2155 - Instrumentation and Networks Laboratory (1)
ECGR 2156 - Logic and Networks Laboratory (1)
ECGR 2161 - Basic Electrical Engineering I (3)
ECGR 2181 - Logic Systems Design (3)
ECGR 3123 - Data Communications and Networking (3)
ECGR 3131 - Fundamentals of Electronics and Semiconductors (3)
ECON 2102 - Principles of Economics - Micro (3)
ECON 3125 - Managerial Economics (3)
ECON 4181 - Environmental Economics (3)
ESCI 3180 - Environmental Impact Analysis (3)
FINN 3120 - Financial Management (3)
FINN 3220 - Financial Analysis (3)
FINN 3223 - International Financial Management (3)
FINN 3271 - Principles of Risk Management and Insurance (3)
FINN 4275 - Corporate Risk Management (3)
GEOG 4103 - Computer Programming for GIS Applications (3)
GEOG 4110 - GIS for Non-Majors (3)
GEOG 4130 - Advanced Geographic Information Systems (4)
GEOG 4140 - Geographic Information Techniques for Community Planning (4)
GEOG 4155 - Retail Location (3)
GEOG 4210 - Urban Planning Methods (3)
GEOG 4255 - Applied Population Analysis (3)
GEOG 4260 - Transportation Policy Formulation (3)
GEOG 4265 - Transportation Analysis Methods (3)
INFO 2130 - Introduction to Business Computing (3)
INFO 2231 - Introduction to Business Programming (3)
INFO 3130 - Management Information Systems (3)
INFO 3232 - International Information Systems Management (3)

INFO 3233 - Data and Information Management (3)
ITCS 4122 - Visual Analytics (3)
ITCS 4156 - Introduction to Machine Learning (3)
MATH 2342 - Data Analysis and Probability (3)
MATH 3116 - Graph Theory (3)
MATH 3166 - Combinatorics (3)
MATH 3176 - Numerical Analysis (3)
MATH 3228 - Actuarial Science IB (3)
MATH 3229 - Actuarial Science IIA (3)
MATH 4128 - Risk Theory (3)
MEGR 2141 - Engineering Mechanics I (3)
MEGR 2144 - Introduction to Solid Mechanics (3)
MEGR 2180 - Manufacturing Systems (3)
MEGR 3111 - Thermodynamics I (3)
MEGR 3112 - Thermodynamics II (3)
MEGR 3116 - Introduction to Heat Transfer (3)
MEGR 3121 - Dynamics Systems I (3)
MEGR 3122 - Dynamic Systems II (3)
MEGR 3161 - Introduction to Engineering Materials (3)
MEGR 3162 - Mechanical Behavior and Strengthening of Solids (3)
MEGR 3171 - Introduction to Measurements and Instrumentation (2)
MEGR 3171L - Instrumentation Laboratory (2)
MEGR 3225 - Introduction to Finite Element Analysis (3)
MEGR 3282 - Data-Driven Quality Engineering and Metrology (3)
MEGR 4127 - Introduction to Robotics (3)
MGMT 3140 - Management and Organizational Behavior (3)
MGMT 3241 - Acquiring and Maintaining Talent (3)
MGMT 3260 - Managerial Communication (3)
MGMT 3274 - International Business Processes and Problems (3)
MKTG 3110 - Marketing Concepts (3)
OPER 3100 - Operations Management (3)
OPER 3204 - Management of Service and Project Operations (3)
OPER 3208 - Supply Chain Management (3)
OPRS 4113 - Game Theory (3)
OPRS 4114 - Dynamic Programming (3)
STAT 3150 - Time Series Analysis (3)
STAT 3160 - Applied Multivariate Analysis (3)
STAT 4116 - Statistical Computing (3)

**Concentration Courses (12 credit hours)**
***Elective Courses (9 credit hours)***
*Select three of the following:*
SEGR 4961 - Introduction to Energy Systems (3)
SEGR 4962 - Energy Markets (3)
SEGR 4963 - Energy Systems Planning (3)
SEGR 4964 - Case Studies in the Energy Industry (3)

***Elective Course (3 credit hours)***
*Select one of the following not already taken from above list:*
SEGR 4201 - Fundamentals of Deterministic System Analysis (3)
SEGR 4202 - Fundamentals of Stochastic System Analysis (3)
SEGR 4203 - Fundamentals of Engineering Management (3)
SEGR 4961 - Introduction to Energy Systems (3)
SEGR 4962 - Energy Markets (3)
SEGR 4963 - Energy Systems Planning (3)
SEGR 4964 - Case Studies in the Energy Industry (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 credit hours

## Progression Requirements

After completing the Common First Year Curriculum (CFY) courses, students will decide on their engineering major for their second through fourth years, which may be the major they initially indicated or any other engineering major. Students must meet the following requirements in order to register for major courses:

**Engineering Majors**
Engineering majors must complete all of the requirements below before enrolling in W.S. Lee College of Engineering sophomore-year engineering courses.

- Pass all courses within two attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1242, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.5 cumulative GPA upon completion of the Common First Year Curriculum courses (2.80 for Mechanical Engineering majors)

**Engineering Technology and Construction Management Majors**
**Civil Engineering Technology**

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Electromechanical Engineering Technology**

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum including MATH 1241 with grade of C or above and PHYS 2101 and PHYS 2101L
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Mechanical Engineering Technology**

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.2 cumulative GPA upon completion of the Common First Year courses

**Construction Management**
- Complete CMET 1400, ETCE 1222, ETCE 1211L, and MATH 1103
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Fire & Safety)**
- Complete ETFS 1152, ETFS 1201, ETFS 1220, ETFS 1244, and MATH 1100
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Occupational Safety)**
- Complete BIOL 1110, ETFS 1201, ETFS 1220, ETGR 2230, MATH 1103, PSYC 1101 and STAT 1220
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

# Early Entry: Master of Science in Engineering Management

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**
- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.20 overall undergraduate GPA
- Minimum 3.20 GPA in the major
- Acceptable scores on the appropriate graduate standardized test (GRE) *(The GRE test requirement may be waived for applicants from an engineering program that is accredited by ABET-Engineering)*
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Department of Industrial and Systems Engineering and The Graduate School

## Progression Requirements
- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.00 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree.

## Special Policies or Requirements

Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# Department of Mechanical Engineering and Engineering Science

mees.charlotte.edu

## Undergraduate Programs

- B.S. in Mechanical Engineering (BSME)
  - Aerospace Engineering
  - Biomedical Engineering
  - Energy Engineering
  - Motorsports Engineering
  - Precision Engineering and Metrology
- B.S. in Mechanical Engineering and B.A. in Physics Dual Degree
- Minor in Mechanical Engineering
- Early Entry: M.S. in Mechanical Engineering

Mechanical engineering is possibly the broadest of the engineering disciplines. Mechanical engineers are involved in almost all aspects of the technological problems facing today's society. Among the major concerns of the mechanical engineer are problems related to conversion, utilization, and conservation of our limited energy resources. Additional important areas for the mechanical engineer include the design and analysis of machines, structures, and manufacturing processes related to the industrial output of the nation. Increasingly, this design and analysis is computer-based using the techniques of computer-aided design (CAD/CAM).

A sound understanding of engineering sciences is fundamental to the education of engineers in every discipline. Engineering sciences are generally identified as those areas of engineering that emphasize the application of the fundamental principles of the physical sciences, primarily physics and chemistry, to engineering problems. Some classical and emerging engineering areas that fall within this field include thermodynamics, fluid mechanics, engineering mechanics, engineering materials, nuclear and chemical sciences, microelectronics theory and fabrication, manufacturing, metrology, and the solid state sciences.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

## Degree Programs

The Department of Mechanical Engineering and Engineering Science offers an undergraduate program leading to a Bachelor of Science in Mechanical Engineering (B.S.M.E.) degree (with optional Concentrations in Biomedical Engineering, Energy Engineering, Motorsports Engineering, and Precision Engineering and Metrology) and graduate programs leading to Master of Science in Mechanical Engineering (M.S.M.E.), and Doctor of Philosophy (Ph.D.) degrees. Additionally, a dual bachelor's degree program is offered in cooperation with the Department of Physics. Using the flexibility provided by the technical electives, and with engineering career counseling, a student can develop a variety of educational programs that would provide the background for professional engineering licensing and practice in any of the areas included within mechanical engineering and/or the engineering sciences. Students can also prepare for graduate study in mechanical engineering, materials science, or any of the recognized areas covered by the engineering sciences. Individualized study programs in one of the interdisciplinary fields involving the merger of engineering and the various science areas, such as bioengineering, microelectronics, or chemical engineering sciences, can be developed.

## Program Educational Objectives

- Our graduates apply their knowledge to enable them to succeed as engineers in society, graduate or professional studies, and lifelong learning.
- Our graduates contribute to safety and make ethical engineering and societal decisions.
- Our graduates contribute to the design, manufacture, implementation and management of engineering systems.
- Our graduates are equipped with strong engineering fundamentals and have the flexibility and competence to adapt in a changing world.
- Our graduates innovate, develop and communicate ideas and solutions, as effective technical leaders, team leaders, or team members.

### Student Outcomes

Upon graduation, students have:

1) An ability to apply knowledge of mathematics, science, and engineering to identify, formulate, and solve complex engineering problems.
2) An ability to apply the engineering design process to create thermal or mechanical systems that meet specified application goals with consideration for public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3) An ability to communicate effectively with a range of audiences through technical writing and oral presentations.
4) An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5) A record of productive participation as team members or in leadership roles on multidisciplinary teams which create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6) An ability to develop experimental protocols and perform experiments designed to test or verify mechanical principles, components, and properties; analyze results; interpret data; and use engineering judgment to draw conclusions.
7) An ability to obtain and apply new knowledge, using appropriate learning strategies.

## Accreditation

The programs in Mechanical Engineering and Engineering Science are accredited by the Engineering Accreditation Commission of ABET, www.abet.org.

# Bachelor of Science in Mechanical Engineering (B.S.M.E.)

A Major in Mechanical Engineering leading to the B.S.M.E. degree consists of a total of 120 credit hours.

## Admission Requirements

### First-Year Students

First-year admission is competitive, based upon an overall evaluation of the high school record, with particular emphasis on advanced courses in math and science. See University Admission Requirements for a detailed description of the criteria.

First-Year students may either select a major at the time of their application or may choose to be Engineering-undeclared. All First-Year College of Engineering students will take a common set of courses called the Common First Year. Towards the end of their first year, having completed all progression requirements, students will declare or confirm their Engineering Major for the second through fourth years. This selection may be the major they initially indicated or any other engineering major for which they meet the progression requirements.

### Transfers

All transfer students will be evaluated for placement into a departmental Program or the Common First Year program based on the evaluation of their transfer credits (consistent with the North Carolina articulation agreements).

- See University Admission Requirements
- Minimum GPA: 2.50 (2.80 for Mechanical Engineering)
- Pre-Major/Prerequisite Courses:
  - Engineering Programs: Calculus I course (equivalent to MATH 1241), with a grade of C or above
  - Engineering Technology Programs: Pre-calculus course (equivalent to MATH 1103) or higher, with a grade of C or above
- Transferable Credit Hours: Minimum of 24

Transfers from an ABET-accredited engineering program who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

### Currently Enrolled Students

### Internal Change of Major

Internal change of majors within the College of Engineering must have a minimum GPA of 2.50 (2.80 for Mechanical Engineering). Students who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

### Change of Major Into a Program in the College of Engineering

First-time college students who seek eligibility for a change of major from a non-engineering major into an engineering program are required to:

- Complete the First-Year Curriculum.
- Have no more than two attempts per course, including withdrawing from a course with a grade of W.
- Achieve an overall GPA of 2.50 (2.80 for Mechanical Engineering).

### Students Seeking Eligibility for a Change of Major

- Should continue to be advised by their current advisor.
- Should focus on successfully completing courses that count towards the program of interest and not rely on grades in unrelated courses to elevate the GPA.
- Are not permitted to enroll in Sophomore engineering courses.
- May request authorization to enroll in ENGR 1300, ENGR 1301, ENGR 1302 or ENGR 1303 via a request to the College of Engineering Advising department at osds-advising@charlotte.edu.

### Transfers Seeking Eligibility for a Change of Major

Students who transfer to Charlotte into a non-engineering major and have not met the Transfer Requirements for a given engineering program are not guaranteed to be considered for a change of major. Representatives of the program of interest make decisions on a student's eligibility to pursue a change of major based on a holistic review of a student's entire academic record, including grades earned at other institutions. A record of unsuccessful attempts in courses will weigh negatively on such decisions. If transfer students are allowed to pursue eligibility for a change of major to a given program, they will be required to:

- Complete the Common First-Year Curriculum.
- Have no more than two attempts per course including withdrawing from a course with a grade of W.
- Achieve an overall GPA of 2.50 (2.80 for Mechanical Engineering).
- Complete at least 12 credits of courses at Charlotte, including at least four courses in math, science and/or engineering.

## Common First-Year Curriculum (CFY)

The College of Engineering uses a Common First-Year Curriculum (CFY) for all Engineering students in order to:

- Provide a strong academic base of foundational knowledge and skills
- Facilitate changing majors within the first year
- Support students with lower math placement and increase access to all majors
- Allow students to explore different majors before committing
- Enhance learning with innovative pedagogies and activities

### Common First-Year Courses

All new first-year students are initially advised by a central office within the W.S. Lee College of Engineering. Students must complete the following classes that are common to all majors of the college (except Construction Management and Fire and Safety Engineering Technology) in order to progress and matriculate to their major department. *All First-Year Curriculum courses require a grade of C or better.*

ENGR 1300 Exploring Engineering & Technology with Success (2)
ENGR 1301 Foundations of Math and Science for Engineering (3)
ENGR 1302 Logic and Computational Problem Solving (3)
ENGR 1303 Engineering Visualization and Graphical Communication (3)
PHYS 2101 (3)
PHYS 2101L (1)
Two MATH courses: MATH 1103* or MATH 1241* or MATH 1242* (3 each)
*See Notes 1 and 2 below*

* All students should consult their advisor to select the math courses that match their planned major.

***Note 1***
Progression into Civil Engineering, Computer Engineering, Construction Engineering, Electrical Engineering, Environmental Engineering, Mechanical Engineering, and Systems Engineering Major Courses after completing the Common First Year Curriculum requires that students also complete MATH 1241, MATH 1242, PHYS 2101, and PHYS 2101L.

***Note 2***
Progression into Civil Engineering Technology, Electromechanical Engineering Technology, and Mechanical Engineering Technology Major Courses after completing the Common First Year Curriculum requires that students complete MATH 1241, PHYS 2101, and PHYS 2101L with a C or better (except for Electromechanical Engineering Technology).

***Note 3***
Students must earn at least a 2.0 GPA in the first semester to continue into the second semester.

## Degree Requirements

The BSME requires courses in Math, Science, Engineering and General Education. Some Math and Physics courses also satisfy General Education Requirements.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**First- Year Courses (21 credit hours)**
See Common First-Year Curriculum (CFY) for details.

**Additional Math and Physics Courses (10 credit hours)**
MATH 2171 - Differential Equations (3)
MATH 2241 - Calculus III (3)
PHYS 2102 - Physics for Science and Engineering II (3)
PHYS 2102L - Physics for Science and Engineering II Laboratory (1)

**Major Courses (59 credit hours)**
ENGR 3295 - Multidisciplinary Professional Development (1)
MEGR 2141 - Engineering Mechanics I (3)
MEGR 2144 - Introduction to Solid Mechanics (3)
MEGR 2152 - CAD for Mechanical Engineers (1)
MEGR 2157 - Design Projects I Laboratory (3)
MEGR 2173 - Mechatronics I (2)
MEGR 2174 - Mechatronics I Projects Laboratory (1)
MEGR 2180 - Manufacturing Systems (3)
MEGR 2233 - Math and Science for Engineers II (3)
MEGR 2234 - Math and Science for Engineers III (4)
MEGR 2242 - Computational Methods for Engineers (2)
MEGR 3111 - Thermodynamics I (3)
MEGR 3114 - Fluid Mechanics (3)
MEGR 3116 - Introduction to Heat Transfer (3)
MEGR 3121 - Dynamics Systems I (3)
MEGR 3123 - Dynamic Systems II (2)
MEGR 3152 - Mechanics and Materials Laboratory (2)
MEGR 3156 - Design Projects Lab II (2)
MEGR 3161 - Introduction to Engineering Materials (3)
MEGR 3173 - Mechatronics II (2)
MEGR 3174 - Mechatronics II Projects Laboratory (1)
MEGR 3251 - Thermal/Fluids Laboratory (2)
MEGR 3255 - Senior Design I (2)
MEGR 3256 - Senior Design II (2)

Design Elective: Thermal/Fluids Design or Machine Analysis and Design
MEGR 3216 - Thermal/Fluid Design (3)
or MEGR 3221 - Machine Analysis and Design I (3)

These courses require a grade of C or better for the Mechanical Engineering curriculum: ENGR 1300, ENGR 1301, ENGR 1302, ENGR 1303, MATH 1241, MATH 1242, MATH 2171, MATH 2241, PHYS 2101, PHYS 2101L, PHYS 2102, PHYS 2102L, MEGR 2141, MEGR 2144, MEGR 2152, MEGR 2157, MEGR 2180, MEGR 2173, MEGR 2174, MEGR 2233, MEGR 2234, MEGR 2242, MEGR 3111, MEGR 3114, MEGR 3121, MEGR 3156, MEGR 3161, and MEGR 3174. Additional courses may require a grade of C or better for Technical Electives.

**Technical Elective Courses (12 credit hours)**
*Select four of the following. At least three of the four must be MEGR courses.*
BIOL 3161 - Introduction to Biotechnology (3)
MATH 3171 - Applied Mathematics (3)
MEGR 3090 - Special Topics in Mechanical Engineering (3)
MEGR 3092 - Special Topics in Motorsports Engineering (3)
MEGR 3094 - Special Topics in Energy Engineering (3)
MEGR 3097 - Special Topics in Biomedical Engineering (3)
MEGR 3162 - Mechanical Behavior and Strengthening of Solids (3)
MEGR 3214 - Refrigeration and Air/Conditioning (3)
MEGR 3221 - Machine Analysis and Design I (3) *(may count as a Technical Elective only if MEGR 3216 is completed to fulfill the Design Elective)*
MEGR 3225 - Introduction to Finite Element Analysis (3)
MEGR 3231 - Advanced CAD/CAM (3)
MEGR 3232 - Plastic Part Design (3)
MEGR 3233 - Introduction to Biomaterials (3)
MEGR 3234 - Introduction to Biodynamics (3)
MEGR 3235 - Waves and Optics (3)
MEGR 3236 - Introduction to Nanoscale Science and Engineering (3)
MEGR 3238 - Microscopy for Engineering (3)
MEGR 3241 - Advanced Motorsports Instrumentation (3)
MEGR 3245 - Advanced Experimental Methods (3)
MEGR 3260 - Clean Coal Technology (3)
MEGR 3261 - Sustainable Energy (3)
MEGR 3262 - Turbomachinery (3)
MEGR 3270 - Biomedical Fluidics: Microfluidics (3)
MEGR 3271 - Biomedical Manufacturing: 3D Biofabrication (3)
MEGR 3272 - Introduction to Bio-Polymers and Composites (3)
MEGR 3280 - Metrology Fundamentals Laboratory (3)
MEGR 3282 - Data-Driven Quality Engineering and Metrology (3)
MEGR 3283 - Practical Applications of Precision Engineering and Metrology (3)
MEGR 3310 - Flight Mechanics (3)
MEGR 3452 - Introduction to Nuclear Engineering (3)
MEGR 4090 - Special Topics in Mechanical Engineering (3)
MEGR 4091 - Special Topics in Aerospace Engineering (3)
MEGR 4092 - Special Topics in Motorsports Engineering (3)
MEGR 4094 - Special Topics in Energy Engineering (3)
MEGR 4097 - Special Topics in Biomedical Engineering (3)
MEGR 4098 - Special Topics in Precision Engineering (3)

MEGR 4127 - Introduction to Robotics (3)
MEGR 4143 - Discrete Mechanical Vibrating Systems (3)
MEGR 4210 - Automotive Powerplants (3)
MEGR 4211 - Road Vehicle Dynamics (3)
MEGR 4212 - Advanced Road Vehicle Dynamics (3)
MEGR 4213 - Hybrid and Alternative Fuels Automotive Power Plants (3)
MEGR 4235 - Waves and Optics (3)
MEGR 4237 - Introduction to Control Systems (3)
MEGR 4240 - Advanced Automotive Powerplants (3)
MEGR 4242 - Applied Vehicle Aerodynamics (3)
MEGR 4244 - Tire Mechanics (3)
MEGR 4271 - Orthopedic Biomechanics (3)
MEGR 4272 - Mechanics of the Human Locomotor System (3)
MEGR 4273 - Regenerative Neural Engineering (3)
MEGR 4274 - Bioelectronic Medicine (3)
MEGR 4280 - Advanced Manufacturing Processes (3)
MEGR 4281 - GD&T for Design and Inspection (3)
MEGR 4282 - Fundamentals of Precision Machine Design (3)
MEGR 4290 - Introduction to Electric Vehicles and Batteries (3)
MEGR 4291 - Battery Performance and Testing (3)
MEGR 4292 - Materials Science in Battery Technology (3)
MEGR 4310 - Uncrewed Aerial Vehicles (3)
MEGR 4311 - Aerospace Materials (3)
MEGR 4312 - Aerospace Propulsion (3)
MEGR 4313 - Astromechanics (3)
PHYS 3220 - Mathematical Methods in Physics (3)
PHYS 4110 - Introduction to Biomedical Optics (3)
PHYS 4140 - Nuclear Physics (3)
PHYS 4232 - Electromagnetic Theory II (3)
PHYS 4242 - Quantum Mechanics II (3)
PHYS 4271 - Waves and Optics (3)

### Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 credit hours

## Progression Requirements

### First-Year Requirements

After completing the Common First Year Curriculum (CFY) courses, students will decide on their engineering major for their second through fourth years, which may be the major they initially indicated or any other engineering major. Students must meet the following requirements in order to register for major courses:

### Engineering Majors

Engineering majors must complete all of the requirements below before enrolling in W.S. Lee College of Engineering sophomore-year engineering courses.

- Pass all courses within two attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1242, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.5 cumulative GPA upon completion of the Common First Year Curriculum courses (2.80 for Mechanical Engineering majors)

### Engineering Technology and Construction Management Majors

#### Civil Engineering Technology

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

#### Electromechanical Engineering Technology

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum including MATH 1241 with grade of C or above and PHYS 2101 and PHYS 2101L
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

#### Mechanical Engineering Technology

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.2 cumulative GPA upon completion of the Common First Year courses

#### Construction Management

- Complete CMET 1400, ETCE 1222, ETCE 1211L, and MATH 1103
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

#### Fire & Safety Engineering Technology (Fire & Safety)

- Complete ETFS 1152, ETFS 1201, ETFS 1220, ETFS 1244, and MATH 1100
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

#### Fire & Safety Engineering Technology (Occupational Safety)

- Complete BIOL 1110, ETFS 1201, ETFS 1220, ETGR 2230, MATH 1103, PSYC 1101 and STAT 1220
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core

courses

## Bachelor of Science in Mechanical Engineering (B.S.M.E.) *with Concentration in Aerospace Engineering*

The B.S.M.E. with a Concentration in Aerospace Engineering program is intended for students interested in specialized and systematic training and education in the area of aerospace engineering. Students completing the requirements described in this program will receive a designation on their transcripts showing that they have completed the Aerospace Engineering concentration.

All program-level Admissions and Progression Requirements are in addition to the University of North Carolina at Charlotte Admission Requirements.

### Admission Requirements

#### First-Year Students

First-year admission is competitive, based upon an overall evaluation of the high school record, with particular emphasis on advanced courses in math and science. See University Admission Requirements for a detailed description of the criteria.

First-Year students may either select a major at the time of their application or may choose to be Engineering-undeclared. All First-Year College of Engineering students will take a common set of courses called the Common First Year. Towards the end of their first year, having completed all progression requirements, students will declare or confirm their Engineering Major for the second through fourth years. This selection may be the major they initially indicated or any other engineering major for which they meet the progression requirements.

#### Transfers

All transfer students will be evaluated for placement into a departmental Program or the Common First Year program based on the evaluation of their transfer credits (consistent with the North Carolina articulation agreements).

- See University Admission Requirements
- Minimum GPA: 2.50 (2.80 for Mechanical Engineering)
- Pre-Major/Prerequisite Courses:
    - Engineering Programs: Calculus I course (equivalent to MATH 1241), with a grade of C or above
    - Engineering Technology Programs: Pre-calculus course (equivalent to MATH 1103) or higher, with a grade of C or above
- Transferable Credit Hours: Minimum of 24

Transfers from an ABET-accredited engineering program who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

#### Additional Admission Requirements for the Aerospace Concentration

- Minimum GPA: 3.00
- Prerequisite Courses (with grades of C or above):
  ENGR 1300
  ENGR 1301
  ENGR 1302
  ENGR 1303
  MATH 1242
  MEGR 2141
  PHYS 2101
  PHYS 2101L
  WRDS 1103 or WRDS 1104
- *Declaration of Concentration:* BSME students who wish to be admitted to the concentration must apply for admission to the concentration.
- In order to remain in the concentration, a minimum overall GPA of 3.00 must be maintained.

#### Currently Enrolled Students

#### Internal Change of Major

Internal change of majors within the College of Engineering must have a minimum GPA of 2.50 (2.80 for Mechanical Engineering). Students who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

#### Change of Major Into a Program in the College of Engineering

First-time college students who seek eligibility for a change of major from a non-engineering major into an engineering program are required to:

- Complete the First-Year Curriculum.
- Have no more than two attempts per course, including withdrawing from a course with a grade of W.
- Achieve an overall GPA of 2.50 (2.80 for Mechanical Engineering).

#### Students Seeking Eligibility for a Change of Major

- Should continue to be advised by their current advisor.
- Should focus on successfully completing courses that count towards the program of interest and not rely on grades in unrelated courses to elevate the GPA.
- Are not permitted to enroll in Sophomore engineering courses. May request authorization to enroll in ENGR 1300, ENGR 1301, ENGR 1302 or ENGR 1303 via a request to the College of Engineering Advising department at osds-advising@charlotte.edu.

#### Transfers Seeking Eligibility for a Change of Major

Students who transfer to Charlotte into a non-engineering major and have not met the Transfer Requirements for a given engineering program are not guaranteed to be considered for a change of major. Representatives of the program of interest make decisions on a student's eligibility to pursue a change of major based on a holistic review of a student's entire academic record, including grades earned at other institutions. A record of unsuccessful attempts in courses will weigh negatively on such decisions. If transfer students are allowed to pursue eligibility for a change of major to a given program, they will be required to:

- Complete the Common First-Year Curriculum.
- Have no more than two attempts per course including withdrawing from a course with a grade of W.
- Achieve an overall GPA of 2.50 (2.80 for Mechanical Engineering).
- Complete at least 12 credits of courses at Charlotte, including at least four courses in math, science and/or engineering.

#### Current UNC Charlotte Students Seeking Eligibility for a Change of Major

Current UNC Charlotte students who are interested in changing majors to Engineering Technology or Construction Management (ETCM) must meet

major-specific requirements in order to declare a major. Please visit the ETCM department for more information on the change of major process. Upon satisfying all of the major-specific requirements, students may request admission to an ETCM program by scheduling an appointment with a departmental advisor of the given program.

## Common First-Year Curriculum (CFY)

The College of Engineering uses a Common First-Year Curriculum (CFY) for all Engineering students in order to:

- Provide a strong academic base of foundational knowledge and skills
- Facilitate changing majors within the first year
- Support students with lower math placement and increase access to all majors
- Allow students to explore different majors before committing
- Enhance learning with innovative pedagogies and activities

### Common First-Year Courses

All new first-year students are initially advised by a central office within the W.S. Lee College of Engineering. Students must complete the following classes that are common to all majors of the college (except Construction Management and Fire and Safety Engineering Technology) in order to progress and matriculate to their major department. *All First-Year Curriculum courses require a grade of C or better.*

ENGR 1300 Exploring Engineering & Technology with Success (2)
ENGR 1301 Foundations of Math and Science for Engineering (3)
ENGR 1302 Logic and Computational Problem Solving (3)
ENGR 1303 Engineering Visualization and Graphical Communication (3)
PHYS 2101 (3)
PHYS 2101L (1)
Two MATH courses: MATH 1103* or MATH 1241* or MATH 1242* (3 each)
*See Notes 1 and 2 below*

* All students should consult their advisor to select the math courses that match their planned major.

### *Note 1*

Progression into Civil Engineering, Computer Engineering, Construction Engineering, Electrical Engineering, Environmental Engineering, Mechanical Engineering, and Systems Engineering Major Courses after completing the Common First Year Curriculum requires that students also complete MATH 1241, MATH 1242, PHYS 2101, and PHYS 2101L.

### *Note 2*

Progression into Civil Engineering Technology, Electromechanical Engineering Technology, and Mechanical Engineering Technology Major Courses after completing the Common First Year Curriculum requires that students complete MATH 1241, PHYS 2101, and PHYS 2101L with a C or better (except for Electromechanical Engineering Technology).

### *Note 3*

Students must earn at least a 2.0 GPA in the first semester to continue into the second semester.

## Degree Requirements

The BSME requires courses in Math, Science, Engineering and General Education. Some Math and Physics courses also satisfy General Education Requirements. The concentration in Aerospace Engineering includes Aerospace Technical Electives.

### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

### First- Year Courses (21 credit hours)

See Common First-Year Curriculum (CFY) for details.

### Additional Math and Physics Courses (10 credit hours)

MATH 2171 - Differential Equations (3)
MATH 2241 - Calculus III (3)
PHYS 2102 - Physics for Science and Engineering II (3)
PHYS 2102L - Physics for Science and Engineering II Laboratory (1)

### Major Courses (59 credit hours)

ENGR 3295 - Multidisciplinary Professional Development (1)
MEGR 2141 - Engineering Mechanics I (3)
MEGR 2144 - Introduction to Solid Mechanics (3)
MEGR 2180 - Manufacturing Systems (3)
MEGR 3111 - Thermodynamics I (3)
MEGR 3114 - Fluid Mechanics (3)
MEGR 3116 - Introduction to Heat Transfer (3)
MEGR 3121 - Dynamics Systems I (3)
MEGR 3123 - Dynamic Systems II (2)
MEGR 3152 - Mechanics and Materials Laboratory (2)
MEGR 3156 - Design Projects Lab II (2)
MEGR 3161 - Introduction to Engineering Materials (3)
MEGR 3173 - Mechatronics II (2)
MEGR 3174 - Mechatronics II Projects Laboratory (1)

Design Elective: Thermal/Fluids Design or Machine Analysis and Design
MEGR 3216 - Thermal/Fluid Design (3)
or MEGR 3221 - Machine Analysis and Design I (3)

MEGR 3251 - Thermal/Fluids Laboratory (2)
MEGR 3315 - Aerospace Senior Design I (2) *
MEGR 3316 - Aerospace Senior Design II (2)

These courses require a grade of C or better for the Mechanical Engineering curriculum: ENGR 1300, ENGR 1301, ENGR 1302, ENGR 1303, MATH 1241, MATH 1242, MATH 2171, MATH 2241, PHYS 2101, PHYS 2101L, PHYS 2102, PHYS 2102L, MEGR 2141, MEGR 2144, MEGR 2152, MEGR 2157, MEGR 2180, MEGR 2173, MEGR 2174, MEGR 2233, MEGR 2234, MEGR 2242, MEGR 3111, MEGR 3114, MEGR 3121, MEGR 3156, MEGR 3161, and MEGR 3174. Additional courses may require a grade of C or better for Technical Electives.

### Concentration in Aerospace Engineering (12-13 credit hours)

**Required Introductory Course**

MEGR 2319 - Introduction to Aerospace Engineering (1)

**Required Aerospace Technical Elective**

All students in the concentration are required to successfully complete MEGR 3310.
MEGR 3310 - Flight Mechanics (3)

**Additional Aerospace Technical Electives**

*Select three of the following:*

MEGR 3021 - Special Topics in Aerospace Engineering (2)
MEGR 3221 - Machine Analysis and Design I (3)
*(MEGR 3221 may count as an Aerospace Technical Elective only if MEGR 3216 is completed to fulfill the Design Elective.)*
MEGR 3225 - Introduction to Finite Element Analysis (3)
MEGR 4091 - Special Topics in Aerospace Engineering (3)
MEGR 4237 - Introduction to Control Systems (3)
MEGR 4242 - Applied Vehicle Aerodynamics (3)
MEGR 4310 - Uncrewed Aerial Vehicles (3)
MEGR 4311 - Aerospace Materials (3)
MEGR 4312 - Aerospace Propulsion (3)
MEGR 4313 - Astromechanics (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 credit hours

## Progression Requirements

### First-Year Requirements

After completing the Common First Year Curriculum (CFY) courses, students will decide on their engineering major for their second through fourth years, which may be the major they initially indicated or any other engineering major. Students must meet the following requirements in order to register for major courses:

**Engineering Majors**

Engineering majors must complete all of the requirements below before enrolling in W.S. Lee College of Engineering sophomore-year engineering courses.

- Pass all courses within two attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1242, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.5 cumulative GPA upon completion of the Common First Year Curriculum courses (2.80 for Mechanical Engineering majors)

**Engineering Technology and Construction Management Majors**
**Civil Engineering Technology**

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Electromechanical Engineering Technology**

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum including MATH 1241 with grade of C or above and PHYS 2101 and PHYS 2101L
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Mechanical Engineering Technology**

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.2 cumulative GPA upon completion of the Common First Year courses

**Construction Management**

- Complete CMET 1400, ETCE 1222, ETCE 1211L, and MATH 1103
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Fire & Safety)**

- Complete ETFS 1152, ETFS 1201, ETFS 1220, ETFS 1244, and MATH 1100
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Occupational Safety)**

- Complete BIOL 1110, ETFS 1201, ETFS 1220, ETGR 2230, MATH 1103, PSYC 1101 and STAT 1220
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

# Bachelor of Science in Mechanical Engineering (B.S.M.E.) *with Concentration in Biomedical Engineering*

The B.S.M.E. with a Concentration in Biomedical Engineering program is intended for students interested in specialized and systematic training and education in the area of Biomedical Engineering. Students completing the requirements described in this program receive a special designation on their transcripts showing that they have completed the Concentration in Biomedical Engineering.

## Admission Requirements

### First-Year Students

First-year admission is competitive, based upon an overall evaluation of the high school record, with particular emphasis on advanced courses in math and science. See University Admission Requirements for a detailed description of the criteria.

First-Year students may either select a major at the time of their application or may choose to be Engineering-undeclared. All First-Year College of Engineering students will take a common set of courses called the Common First Year. Towards the end of their first year, having completed all progression requirements, students will declare or confirm their Engineering Major for the second through fourth years. This selection may be the major they initially indicated or any other engineering major for which they meet the progression requirements.

### Transfers

All transfer students will be evaluated for placement into a departmental Program or the Common First Year program based on the evaluation of their transfer credits (consistent with the North Carolina articulation agreements).

- See University Admission Requirements
- Minimum GPA: 2.50 (2.80 for Mechanical Engineering)
- Pre-Major/Prerequisite Courses:
  - Engineering Programs: Calculus I course (equivalent to MATH 1241), with a grade of C or above
  - Engineering Technology Programs: Pre-calculus course (equivalent to MATH 1103) or higher, with a grade of C or above
- Transferable Credit Hours: Minimum of 24

Transfers from an ABET-accredited engineering program who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

### Additional Admission Requirements for the Concentration

- Minimum GPA: 3. 0
- *Declaration of Concentration*: Students must apply for admission to and may enter the Biomedical Engineering concentration during their first year or second year.
- In order to remain in the concentration, a minimum overall GPA of 3.0 must be maintained.

### Currently Enrolled Students

### Internal Change of Major

Internal change of majors within the College of Engineering must have a minimum GPA of 2.50 (2.80 for Mechanical Engineering). Students who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

### Change of Major Into a Program in the College of Engineering

First-time college students who seek eligibility for a change of major from a non-engineering major into an engineering program are required to:

- Complete the First-Year Curriculum.
- Have no more than two attempts per course, including withdrawing from a course with a grade of W.
- Achieve an overall GPA of 2.50 (2.80 for Mechanical Engineering).

### Students Seeking Eligibility for a Change of Major

- Should continue to be advised by their current advisor.
- Should focus on successfully completing courses that count towards the program of interest and not rely on grades in unrelated courses to elevate the GPA.
- Are not permitted to enroll in Sophomore engineering courses.
- May request authorization to enroll in ENGR 1300, ENGR 1301, ENGR 1302 or ENGR 1303 via a request to the College of Engineering Advising department at osds-advising@charlotte.edu.

### Transfers Seeking Eligibility for a Change of Major

Students who transfer to Charlotte into a non-engineering major and have not met the Transfer Requirements for a given engineering program are not guaranteed to be considered for a change of major. Representatives of the program of interest make decisions on a student's eligibility to pursue a change of major based on a holistic review of a student's entire academic record, including grades earned at other institutions. A record of unsuccessful attempts in courses will weigh negatively on such decisions. If transfer students are allowed to pursue eligibility for a change of major to a given program, they will be required to:

- Complete the Common First-Year Curriculum.
- Have no more than two attempts per course including withdrawing from a course with a grade of W.
- Achieve an overall GPA of 2.50 (2.80 for Mechanical Engineering).
- Complete at least 12 credits of courses at Charlotte, including at least four courses in math, science and/or engineering.

## Common First-Year Curriculum (CFY)

The College of Engineering uses a Common First-Year Curriculum (CFY) for all Engineering students in order to:

- Provide a strong academic base of foundational knowledge and skills
- Facilitate changing majors within the first year
- Support students with lower math placement and increase access to all majors
- Allow students to explore different majors before committing
- Enhance learning with innovative pedagogies and activities

### Common First-Year Courses

All new first-year students are initially advised by a central office within the W.S. Lee College of Engineering. Students must complete the following classes that are common to all majors of the college (except Construction Management and Fire and Safety Engineering Technology) in order to progress and matriculate to their major department. *All First-Year Curriculum courses require a grade of C or better.*

ENGR 1300 Exploring Engineering & Technology with Success (2)
ENGR 1301 Foundations of Math and Science for Engineering (3)
ENGR 1302 Logic and Computational Problem Solving (3)
ENGR 1303 Engineering Visualization and Graphical Communication (3)
PHYS 2101 (3)
PHYS 2101L (1)
Two MATH courses: MATH 1103* or MATH 1241* or MATH 1242* (3 each)
*See Notes 1 and 2 below*

* All students should consult their advisor to select the math courses that match their planned major.

***Note 1***

Progression into Civil Engineering, Computer Engineering, Construction Engineering, Electrical Engineering, Environmental Engineering, Mechanical Engineering, and Systems Engineering Major Courses after completing the Common First Year Curriculum requires that students also complete MATH 1241, MATH 1242, PHYS 2101, and PHYS 2101L.

***Note 2***

Progression into Civil Engineering Technology, Electromechanical Engineering Technology, and Mechanical Engineering Technology Major Courses after completing the Common First Year Curriculum requires that students complete MATH 1241, PHYS 2101, and PHYS 2101L with a C or better (except for Electromechanical Engineering Technology).

***Note 3***

Students must earn at least a 2.0 GPA in the first semester to continue into the second semester.

## Degree Requirements

The BSME requires courses in Math, Science, Engineering and General Education. Some Math and Physics courses also satisfy General Education Requirements. The concentration in Biomedical Engineering requires a Biomedical-related senior design project as well as Biomedical Technical Electives.

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**First-Year Courses (21 credit hours)**

See Common First-Year Curriculum (CFY) for details.

**Additional Math and Physics Courses (10 credit hours)**

MATH 2171 - Differential Equations (3)
MATH 2241 - Calculus III (3)
PHYS 2102 - Physics for Science and Engineering II (3)
PHYS 2102L - Physics for Science and Engineering II Lab (1)

**Major Courses (59 credit hours)**

ENGR 3295 - Multidisciplinary Professional Development (1)
MEGR 2141 - Engineering Mechanics I (3)
MEGR 2144 - Introduction to Solid Mechanics (3)
MEGR 2157 - Design Projects I Laboratory (3)
MEGR 2173 - Mechatronics I (2)
MEGR 2174 - Mechatronics I Projects Laboratory (1)
MEGR 2233 - Math and Science for Engineers II (3)
MEGR 2234 - Math and Science for Engineers III (4)
MEGR 2242 - Computational Methods for Engineers (2)
MEGR 3114 - Fluid Mechanics (3)
MEGR 3111 - Thermodynamics I (3)
MEGR 3116 - Introduction to Heat Transfer (3)
MEGR 3121 - Dynamics Systems I (3)
MEGR 3123 - Dynamic Systems II (2)
MEGR 3152 - Mechanics and Materials Laboratory (2)
MEGR 3156 - Design Projects Lab II (2)
MEGR 3161 - Introduction to Engineering Materials (3)
MEGR 3173 - Mechatronics II (2)
MEGR 3174 - Mechatronics II Projects Laboratory (1)
MEGR 3251 - Thermal/Fluids Laboratory (2)
MEGR 3275 - Biomedical Engineering Senior Design I (2) *
MEGR 3276 - Biomedical Engineering Senior Design II (2) *
** Must be an approved Biomedical Engineering-related project.*

Design Elective: Thermal/Fluids Design or Machine Analysis and Design
MEGR 3216 - Thermal/Fluid Design (3)
or MEGR 3221 - Machine Analysis and Design I (3)

These courses require a grade of C or better for the Mechanical Engineering curriculum: ENGR 1300, ENGR 1301, ENGR 1302, ENGR 1303, MATH 1241, MATH 1242, MATH 2171, MATH 2241, PHYS 2101, PHYS 2101L, PHYS 2102, PHYS 2102L, MEGR 2141, MEGR 2144, MEGR 2152, MEGR 2157, MEGR 2180, MEGR 2173, MEGR 2174, MEGR 2233, MEGR 2234, MEGR 2242, MEGR 3111, MEGR 3114, MEGR 3121, MEGR 3156, MEGR 3161, and MEGR 3174. Additional courses may require a grade of C or better for Technical Electives.

**Concentration in Biomedical Engineering (12-13 credit hours)**

*Required Introductory Course*
MEGR 2279 - Introduction to Biomedical Engineering (1)

*Biomedical Technical Elective Courses*
Select four technical elective courses from the following options.

- At least three of the four technical elective courses must be MEGR courses
- At least three elective courses are required to be selected from the Biomedical Technical Elective Courses options
- The fourth elective may be selected from the Biomedical Technical Elective Courses or from the Additional Technical Elective Courses options

BIOL 3161 - Introduction to Biotechnology (3)
MEGR 3027 - Special Topics in Biomedical Engineering (2)
MEGR 3097 - Special Topics in Biomedical Engineering (3)
MEGR 3221 - Machine Analysis and Design I (3) *(MEGR 3221 may count as a Technical Elective only if MEGR 3216 is completed to fulfill the Design Elective)*
MEGR 3225 - Introduction to Finite Element Analysis (3)
MEGR 3232 - Plastic Part Design (3)
MEGR 3233 - Introduction to Biomaterials (3)
MEGR 3234 - Introduction to Biodynamics (3)
MEGR 3236 - Introduction to Nanoscale Science and Engineering (3)
MEGR 3238 - Microscopy for Engineering (3)
MEGR 3270 - Biomedical Fluidics: Microfluidics (3)
MEGR 3271 - Biomedical Manufacturing: 3D Biofabrication (3)
MEGR 3272 - Introduction to Bio-Polymers and Composites (3)
MEGR 4097 - Special Topics in Biomedical Engineering (3)
MEGR 4271 - Orthopedic Biomechanics (3)
MEGR 4272 - Mechanics of the Human Locomotor System (3)
MEGR 4273 - Regenerative Neural Engineering (3)
MEGR 4274 - Bioelectronic Medicine (3)
PHYS 4110 - Introduction to Biomedical Optics (3)

*Additional Technical Elective Courses*
MEGR 3090 - Special Topics in Mechanical Engineering (3)
MEGR 3231 - Advanced CAD/CAM (3)
MEGR 3235 - Waves and Optics (3)
MEGR 3237 - Introduction to Control Systems (3)

MEGR 3242 - Applied Vehicle Aerodynamics (3)
MEGR 3283 - Practical Applications of Precision Engineering and Metrology (3)
MEGR 4090 - Special Topics in Mechanical Engineering (3)
MEGR 4127 - Introduction to Robotics (3)
MEGR 4143 - Discrete Mechanical Vibrating Systems (3)
MEGR 4235 - Waves and Optics (3)
MEGR 4237 - Introduction to Control Systems (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 credit hours

## Progression Requirements
After completing the Common First Year Curriculum (CFY) courses, students will decide on their engineering major for their second through fourth years, which may be the major they initially indicated or any other engineering major. Students must meet the following requirements in order to register for major courses:

**Engineering Majors**
Engineering majors must complete all of the requirements below before enrolling in W.S. Lee College of Engineering sophomore-year engineering courses.
- Pass all courses within two attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1242, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.5 cumulative GPA upon completion of the Common First Year Curriculum courses (2.80 for Mechanical Engineering majors)

**Engineering Technology and Construction Management Majors**
**Civil Engineering Technology**
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Electromechanical Engineering Technology**
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241 with grade of C or above and PHYS 2101 and PHYS 2101L
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Mechanical Engineering Technology**
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.2 cumulative GPA upon completion of the Common First Year Courses

**Construction Management**
- Complete CMET 1400, ETCE 1222, ETCE 1211L, and MATH 1103
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Fire & Safety)**
- Complete ETFS 1152, ETFS 1201, ETFS 1220, ETFS 1244, and MATH 1100
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Occupational Safety)**
- Complete BIOL 1110, ETFS 1201, ETFS 1220, ETGR 2230, MATH
- 1103, PSYC 1101 and STAT 1220
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

# Bachelor of Science in Mechanical Engineering (B.S.M.E.) *with Concentration in Energy Engineering*
The B.S.M.E. with a Concentration in Energy Engineering program is intended for students interested in specialized and systematic training and education in the area of power generation. Students completing the requirements described in this program receive a special designation on their transcripts showing that they have completed the Concentration in Energy Engineering.

## Admission Requirements
**First-Year Students**
First-year admission is competitive, based upon an overall evaluation of the high school record, with particular emphasis on advanced courses in math and science. See University Admission Requirements for a detailed description of the criteria.

First-Year students may either select a major at the time of their application or may choose to be Engineering-undeclared. All First-Year

College of Engineering students will take a common set of courses called the Common First Year. Towards the end of their first year, having completed all progression requirements, students will declare or confirm their Engineering Major for the second through fourth years. This selection may be the major they initially indicated or any other engineering major for which they meet the progression requirements.

### Transfers

All transfer students will be evaluated for placement into a departmental Program or the Common First Year program based on the evaluation of their transfer credits (consistent with the North Carolina articulation agreements).

- See University Admission Requirements
- Minimum GPA: 2.50 (2.80 for Mechanical Engineering)
- Pre-Major/Prerequisite Courses:
  - Engineering Programs: Calculus I course (equivalent to MATH 1241), with a grade of C or above
  - Engineering Technology Programs: Pre-calculus course (equivalent to MATH 1103) or higher, with a grade of C or above
- Transferable Credit Hours: Minimum of 24

Transfers from an ABET-accredited engineering program who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

## Additional Admission Requirements for Concentration

- *Minimum GPA:* 3.0
- *Prerequisite Courses (with grades of C or above):*
  - PHYS 2101
  - PHYS 2101L
  - MATH 1242
  - ENGR 1300
  - ENGR 1301
  - ENGR 1302
  - ENGR 1303
  - WRDS 1103 or WRDS 1104
  - MEGR 2141

- *Declaration of Concentration:* Students must apply for admission to and may enter the concentration during their Sophomore or Junior year only.
- In order to remain in the concentration, a minimum overall GPA of 3.00 must be maintained.

### Currently Enrolled Students

### Internal Change of Major

Internal change of majors within the College of Engineering must have a minimum GPA of 2.50 (2.80 for Mechanical Engineering). Students who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

### Change of Major Into a Program in the College of Engineering

First-time college students who seek eligibility for a change of major from a non-engineering major into an engineering program are required to:

- Complete the First-Year Curriculum.
- Have no more than two attempts per course, including withdrawing from a course with a grade of W.
- Achieve an overall GPA of 2.50 (2.80 for Mechanical Engineering).

### Students Seeking Eligibility for a Change of Major

- Should continue to be advised by their current advisor.
- Should focus on successfully completing courses that count towards the program of interest and not rely on grades in unrelated courses to elevate the GPA.
- Are not permitted to enroll in Sophomore engineering courses.
- May request authorization to enroll in ENGR 1300, ENGR 1301, ENGR 1302 or ENGR 1303 via a request to the College of Engineering Advising department at osds-advising@charlotte.edu.

### Transfers Seeking Eligibility for a Change of Major

Students who transfer to Charlotte into a non-engineering major and have not met the Transfer Requirements for a given engineering program are not guaranteed to be considered for a change of major. Representatives of the program of interest make decisions on a student's eligibility to pursue a change of major based on a holistic review of a student's entire academic record, including grades earned at other institutions. A record of unsuccessful attempts in courses will weigh negatively on such decisions. If transfer students are allowed to pursue eligibility for a change of major to a given program, they will be required to:

- Complete the Common First-Year Curriculum.
- Have no more than two attempts per course including withdrawing from a course with a grade of W.
- Achieve an overall GPA of 2.50 (2.80 for Mechanical Engineering).
- Complete at least 12 credits of courses at Charlotte, including at least four courses in math, science and/or engineering.

## Common First-Year Curriculum (CFY)

The College of Engineering uses a Common First-Year Curriculum (CFY) for all Engineering students in order to:

- Provide a strong academic base of foundational knowledge and skills
- Facilitate changing majors within the first year
- Support students with lower math placement and increase access to all majors
- Allow students to explore different majors before committing
- Enhance learning with innovative pedagogies and activities

### Common First-Year Courses

All new first-year students are initially advised by a central office within the W.S. Lee College of Engineering. Students must complete the following classes that are common to all majors of the college (except Construction Management and Fire and Safety Engineering Technology) in order to progress and matriculate to their major department. *All First-Year Curriculum courses require a grade of C or better.*

ENGR 1300 Exploring Engineering & Technology with Success (2)
ENGR 1301 Foundations of Math and Science for Engineering (3)
ENGR 1302 Logic and Computational Problem Solving (3)
ENGR 1303 Engineering Visualization and Graphical Communication (3)
PHYS 2101 (3)
PHYS 2101L (1)
Two MATH courses: MATH 1103* or MATH 1241* or MATH 1242* (3 each)
*See Notes 1 and 2 below*

* All students should consult their advisor to select the math courses that match their planned major.

***Note 1***

Progression into Civil Engineering, Computer Engineering, Construction Engineering, Electrical Engineering, Environmental Engineering, Mechanical Engineering, and Systems Engineering Major Courses after completing the Common First Year Curriculum requires that students also complete MATH 1241, MATH 1242, PHYS 2101, and PHYS 2101L.

***Note 2***

Progression into Civil Engineering Technology, Electromechanical Engineering Technology, and Mechanical Engineering Technology Major Courses after completing the Common First Year Curriculum requires that students complete MATH 1241, PHYS 2101, and PHYS 2101L with a C or better (except for Electromechanical Engineering Technology).

***Note 3***

Students must earn at least a 2.0 GPA in the first semester to continue into the second semester.

## Degree Requirements

The BSME requires courses in Math, Science, Engineering and General Education. Some Math and Physics courses also satisfy General Education Requirements. The concentration in Energy Engineering requires an Energy-related senior design project as well as Energy Technical Electives.

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**First-Year Courses (21 credit hours)**

See Common First-Year Curriculum (CFY) for details.

**Additional Math and Physics Courses (10 credit hours)**

MATH 2171 - Differential Equations (3)
MATH 2241 - Calculus III (3)
PHYS 2102 - Physics for Science and Engineering II (3)
PHYS 2102L - Physics for Science and Engineering II Lab (1)

**Major Courses (59 credit hours)**

ENGR 3295 - Multidisciplinary Professional Development (1)
MEGR 2141 - Engineering Mechanics I (3)
MEGR 2144 - Introduction to Solid Mechanics (3)
MEGR 2152 - CAD for Mechanical Engineers (1)
MEGR 2156 - Design Projects I Laboratory (2)
MEGR 2157 - Design Projects I Laboratory (3)
MEGR 2173 - Mechatronics I (2)
MEGR 2174 - Mechatronics I Projects Laboratory (1)
MEGR 2180 - Manufacturing Systems (3)
MEGR 2233 - Math and Science for Engineers II (3)
MEGR 2234 - Math and Science for Engineers III (4)
MEGR 2242 - Computational Methods for Engineers (2)
MEGR 3111 - Thermodynamics I (3)
MEGR 3114 - Fluid Mechanics (3)
MEGR 3116 - Introduction to Heat Transfer (3)
MEGR 3121 - Dynamics Systems I (3)
MEGR 3123 - Dynamic Systems II (2)
MEGR 3152 - Mechanics and Materials Laboratory (2)
MEGR 3156 - Design Projects Lab II (2)
MEGR 3161 - Introduction to Engineering Materials (3)
MEGR 3173 - Mechatronics II (2)
MEGR 3174 - Mechatronics II Projects Laboratory (1)
MEGR 3251 - Thermal/Fluids Laboratory (2)
MEGR 3455 - Energy Senior Design I (2) *
MEGR 3456 - Energy Senior Design II (2) *
** Must be an approved Energy-related project.*

Design Elective: Thermal/Fluids Design or Machine Analysis and Design
MEGR 3216 - Thermal/Fluid Design (3)
or MEGR 3221 - Machine Analysis and Design I (3)

These courses require a grade of C or better for the Mechanical Engineering curriculum: ENGR 1300, ENGR 1301, ENGR 1302, ENGR 1303, MATH 1241, MATH 1242, MATH 2171, MATH 2241, PHYS 2101, PHYS 2101L, PHYS 2102, PHYS 2102L, MEGR 2141, MEGR 2144, MEGR 2152, MEGR 2157, MEGR 2180, MEGR 2173, MEGR 2174, MEGR 2233, MEGR 2234, MEGR 2242, MEGR 3111, MEGR 3114, MEGR 3121, MEGR 3156, MEGR 3161, and MEGR 3174. Additional courses may require a grade of C or better for Technical Electives.

**Concentration in Energy Engineering (12-13 credit hours)**
**Required Introductory Course**

MEGR 2499 - Introduction to Energy Engineering (1)

**Energy Technical Elective Courses (12 credit hours)**

*Select four of the following:*
MEGR 3024 - Special Topics in Energy Engineering (2)
MEGR 3094 - Special Topics in Energy Engineering (3)
MEGR 3214 - Refrigeration and Air/Conditioning (3)
MEGR 3221 - Machine Analysis and Design I (3)
*(MEGR 3221 may count as an Energy Technical Elective only if MEGR 3216 is completed to fulfill the Design Elective.)*
MEGR 3225 - Introduction to Finite Element Analysis (3)
MEGR 3260 - Clean Coal Technology (3)
MEGR 3261 - Sustainable Energy (3)
MEGR 3262 - Turbomachinery (3)
MEGR 3282 - Data-Driven Quality Engineering and Metrology (3)
MEGR 3452 - Introduction to Nuclear Engineering (3)
MEGR 4094 - Special Topics in Energy Engineering (3)
MEGR 4210 - Automotive Powerplants (3)
MEGR 4237 - Introduction to Control Systems (3)
MEGR 4290 - Introduction to Electric Vehicles and Batteries (3)
MEGR 4291 - Battery Performance and Testing (3)
MEGR 4292 - Materials Science in Battery Technology (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 credit hours

## Progression Requirements

After completing the Common First Year Curriculum (CFY) courses, students will decide on their engineering major for their second through fourth years, which may be the major they initially indicated or any other engineering major. Students must meet the following requirements in order to register for major courses:

### Engineering Majors

Engineering majors must complete all of the requirements below before enrolling in W.S. Lee College of Engineering sophomore-year engineering courses.

- Pass all courses within two attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1242, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.5 cumulative GPA upon completion of the Common First Year Curriculum courses (2.80 for Mechanical Engineering majors)

### Engineering Technology and Construction Management Majors

#### Civil Engineering Technology

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

#### Electromechanical Engineering Technology

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241 with grade of C or above and PHYS 2101 and PHYS 2101L
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

#### Mechanical Engineering Technology

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.2 cumulative GPA upon completion of the Common First Year Courses

#### Construction Management

- Complete CMET 1400, ETCE 1222, ETCE 1211L, and MATH 1103
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

#### Fire & Safety Engineering Technology (Fire & Safety)

- Complete ETFS 1152, ETFS 1201, ETFS 1220, ETFS 1244, and MATH 1100
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

#### Fire & Safety Engineering Technology (Occupational Safety)

- Complete BIOL 1110, ETFS 1201, ETFS 1220, ETGR 2230, MATH 1103, PSYC 1101 and STAT 1220
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

# Bachelor of Science in Mechanical Engineering (B.S.M.E.) *with Concentration in Motorsports Engineering*

The B.S.M.E. with a Concentration in Motorsports Engineering program is intended for students interested in specialized and systematic training and education in the area of automotive engineering as it pertains to motorsports. Students completing the requirements described in this program will receive a special designation on their transcripts showing that they have completed the Motorsports Engineering concentration.

## Admission Requirements

### First-Year Students

First-year admission is competitive, based upon an overall evaluation of the high school record, with particular emphasis on advanced courses in math and science. See University Admission Requirements for a detailed description of the criteria.

First-Year students may either select a major at the time of their application or may choose to be Engineering-undeclared. All First-Year College of Engineering students will take a common set of courses called the Common First Year. Towards the end of their first year, having completed all progression requirements, students will declare or confirm their Engineering Major for the second through fourth years. This selection may be the major they initially indicated or any other engineering major for which they meet the progression requirements.

### Transfers

All transfer students will be evaluated for placement into a departmental Program or the Common First Year program based on the evaluation of their transfer credits (consistent with the North Carolina articulation agreements).

- See University Admission Requirements
- Minimum GPA: 2.50 (2.80 for Mechanical Engineering)
- Pre-Major/Prerequisite Courses:
  - Engineering Programs: Calculus I course (equivalent to MATH 1241), with a grade of C or above
  - Engineering Technology Programs: Pre-calculus course (equivalent to MATH 1103) or higher, with a grade of C or above
- Transferable Credit Hours: Minimum of 24

Transfers from an ABET-accredited engineering program who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

## Additional Admission Requirements for the Concentration

- *Minimum GPA:* 2.50
- *Prerequisite Courses (with grades of C or above):*
  PHYS 2101
  PHYS 2101L
  MATH 1242
  ENGR 1300
  ENGR 1301
  ENGR 1302
  ENGR 1303
  WRDS 1103 or WRDS 1104
- *Declaration of Concentration:* Students must apply for admission to and may enter the concentration during their Sophomore or Junior year only.

## Currently Enrolled Students

### Internal Change of Major

Internal change of majors within the College of Engineering must have a minimum GPA of 2.50 (2.80 for Mechanical Engineering). Students who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

### Change of Major Into a Program in the College of Engineering

First-time college students who seek eligibility for a change of major from a non-engineering major into an engineering program are required to:

- Complete the First-Year Curriculum.
- Have no more than two attempts per course, including withdrawing from a course with a grade of W.
- Achieve an overall GPA of 2.50 (2.80 for Mechanical Engineering).

### Students Seeking Eligibility for a Change of Major

- Should continue to be advised by their current advisor.
- Should focus on successfully completing courses that count towards the program of interest and not rely on grades in unrelated courses to elevate the GPA.
- Are not permitted to enroll in Sophomore engineering courses.
- May request authorization to enroll in ENGR 1300, ENGR 1301, ENGR 1302 or ENGR 1303 via a request to the College of Engineering Advising department at osds-advising@charlotte.edu.

### Transfers Seeking Eligibility for a Change of Major

Students who transfer to Charlotte into a non-engineering major and have not met the Transfer Requirements for a given engineering program are not guaranteed to be considered for a change of major. Representatives of the program of interest make decisions on a student's eligibility to pursue a change of major based on a holistic review of a student's entire academic record, including grades earned at other institutions. A record of unsuccessful attempts in courses will weigh negatively on such decisions. If transfer students are allowed to pursue eligibility for a change of major to a given program, they will be required to:

- Complete the Common First-Year Curriculum.
- Have no more than two attempts per course including withdrawing from a course with a grade of W.
- Achieve an overall GPA of 2.50 (2.80 for Mechanical Engineering).
- Complete at least 12 credits of courses at Charlotte, including at least four courses in math, science and/or engineering.

## Common First-Year Curriculum (CFY)

The College of Engineering uses a Common First-Year Curriculum (CFY) for all Engineering students in order to:

- Provide a strong academic base of foundational knowledge and skills
- Facilitate changing majors within the first year
- Support students with lower math placement and increase access to all majors
- Allow students to explore different majors before committing
- Enhance learning with innovative pedagogies and activities

### Common First-Year Courses

All new first-year students are initially advised by a central office within the W.S. Lee College of Engineering. Students must complete the following classes that are common to all majors of the college (except Construction Management and Fire and Safety Engineering Technology) in order to progress and matriculate to their major department. *All First-Year Curriculum courses require a grade of C or better.*

ENGR 1300 Exploring Engineering & Technology with Success (2)
ENGR 1301 Foundations of Math and Science for Engineering (3)
ENGR 1302 Logic and Computational Problem Solving (3)
ENGR 1303 Engineering Visualization and Graphical Communication (3)
PHYS 2101 (3)
PHYS 2101L (1)
Two MATH courses: MATH 1103* or MATH 1241* or MATH 1242* (3 each)
*See Notes 1 and 2 below*

* All students should consult their advisor to select the math courses that match their planned major.

***Note 1***

Progression into Civil Engineering, Computer Engineering, Construction Engineering, Electrical Engineering, Environmental Engineering, Mechanical Engineering, and Systems Engineering Major Courses after completing the Common First Year Curriculum requires that students also complete MATH 1241, MATH 1242, PHYS 2101, and PHYS 2101L.

***Note 2***

Progression into Civil Engineering Technology, Electromechanical Engineering Technology, and Mechanical Engineering Technology Major Courses after completing the Common First Year Curriculum requires that students complete MATH 1241, PHYS 2101, and PHYS 2101L with a C or better (except for Electromechanical Engineering Technology).

***Note 3***
Students must earn at least a 2.0 GPA in the first semester to continue into the second semester.

## Degree Requirements

The BSME requires courses in Math, Science, Engineering and General Education. Some Math and Physics courses also satisfy General Education Requirements. The concentration in Motorsports Engineering requires Motorsports Technical Electives.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**First-Year Courses (21 credit hours)**
See Common First-Year Curriculum (CFY) for details.

**Additional Math and Physics Courses (10 credit hours)**
MATH 2171 - Differential Equations (3)
MATH 2241 - Calculus III (3)
PHYS 2102 - Physics for Science and Engineering II (3)
PHYS 2102L - Physics for Science and Engineering II Lab (1)

**Major Courses (59 credit hours)**
ENGR 3295 - Multidisciplinary Professional Development (1)
MEGR 2141 - Engineering Mechanics I (3)
MEGR 2144 - Introduction to Solid Mechanics (3)
MEGR 2152 - CAD for Mechanical Engineers (1)
MEGR 2157 - Design Projects I Laboratory (3)
MEGR 2173 - Mechatronics I (2)
MEGR 2174 - Mechatronics I Projects Laboratory (1)
MEGR 2180 - Manufacturing Systems (3)
MEGR 2233 - Math and Science for Engineers II (3)
MEGR 2234 - Math and Science for Engineers III (4)
MEGR 2242 - Computational Methods for Engineers (2)
MEGR 3111 - Thermodynamics I (3)
MEGR 3114 - Fluid Mechanics (3)
MEGR 3116 - Introduction to Heat Transfer (3)
MEGR 3121 - Dynamics Systems I (3)
MEGR 3123 - Dynamic Systems II (2)
MEGR 3152 - Mechanics and Materials Laboratory (2)
MEGR 3156 - Design Projects Lab II (2)
MEGR 3161 - Introduction to Engineering Materials (3)
MEGR 3173 - Mechatronics II (2)
MEGR 3174 - Mechatronics II Projects Laboratory (1)
MEGR 3251 - Thermal/Fluids Laboratory (2)
MEGR 3355 - Motorsports Senior Design I (2)
MEGR 3356 - Motorsports Senior Design II (2)

Design Elective: Thermal/Fluids Design or Machine Analysis and Design
MEGR 3216 - Thermal/Fluid Design (3)
or MEGR 3221 - Machine Analysis and Design I (3)

These courses require a grade of C or better for the Mechanical Engineering curriculum: ENGR 1300, ENGR 1301, ENGR 1302, ENGR 1303, MATH 1241, MATH 1242, MATH 2171, MATH 2241, PHYS 2101, PHYS 2101L, PHYS 2102, PHYS 2102L, MEGR 2141, MEGR 2144, MEGR 2152, MEGR 2157, MEGR 2180, MEGR 2173, MEGR 2174, MEGR 2233, MEGR 2234, MEGR 2242, MEGR 3111, MEGR 3114, MEGR 3121, MEGR 3156, MEGR 3161, and MEGR 3174. Additional courses may require a grade of C or better for Technical Electives.

**Concentration in Motorsports Engineering (12-13 credit hours)**
***Required Introductory Course***
MEGR 2299 - Introduction to Motorsports Engineering (1)

***Motorsports Technical Elective Courses***
*Select four of the following:*
MEGR 3022 - Special Topics in Motorsports Engineering (2)
MEGR 3092 - Special Topics in Motorsports Engineering (3)
MEGR 3221 - Machine Analysis and Design I (3) *(MEGR 3221 may count as a Motorsports Technical Elective only if MEGR 3216 is completed to fulfill the Design Elective)*
MEGR 3225 - Introduction to Finite Element Analysis (3)
MEGR 3231 - Advanced CAD/CAM (3)
MEGR 3241 - Advanced Motorsports Instrumentation (3)
MEGR 3242 - Applied Vehicle Aerodynamics (3)
MEGR 3244 - Tire Mechanics (3)
MEGR 3245 - Advanced Experimental Methods (3)
MEGR 3282 - Data-Driven Quality Engineering and Metrology (3)
MEGR 4092 - Special Topics in Motorsports Engineering (3)
MEGR 4210 - Automotive Powerplants (3)
MEGR 4211 - Road Vehicle Dynamics (3)
MEGR 4212 - Advanced Road Vehicle Dynamics (3)
MEGR 4213 - Hybrid and Alternative Fuels Automotive Power Plants (3)
MEGR 4237 - Introduction to Control Systems (3)
MEGR 4240 - Advanced Automotive Powerplants (3)
MEGR 4290 - Introduction to Electric Vehicles and Batteries (3)
MEGR 4291 - Battery Performance and Testing (3)
MEGR 4292 - Materials Science in Battery Technology (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 credit hours

## Progression Requirements

After completing the Common First Year Curriculum (CFY) courses, students will decide on their engineering major for their second through fourth years, which may be the major they initially indicated or any other engineering major. Students must meet the following requirements in order to register for major courses:

**Engineering Majors**
Engineering majors must complete all of the requirements below before

enrolling in W.S. Lee College of Engineering sophomore-year engineering courses.

- Pass all courses within two attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1242, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.5 cumulative GPA upon completion of the Common First Year Curriculum courses (2.80 for Mechanical Engineering majors)

**Engineering Technology and Construction Management Majors**
**Civil Engineering Technology**

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Electromechanical Engineering Technology**

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241 with grade of C or above and PHYS 2101 and PHYS 2101L
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Mechanical Engineering Technology**

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.2 cumulative GPA upon completion of the Common First Year Courses

**Construction Management**

- Complete CMET 1400, ETCE 1222, ETCE 1211L, and MATH 1103
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Fire & Safety)**

- Complete ETFS 1152, ETFS 1201, ETFS 1220, ETFS 1244, and MATH 1100
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Occupational Safety)**

- Complete BIOL 1110, ETFS 1201, ETFS 1220, ETGR 2230, MATH 1103, PSYC 1101 and STAT 1220
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

# Bachelor of Science in Mechanical Engineering (B.S.M.E.) *with Concentration in Precision Engineering and Metrology*

The B.S.M.E. with a Concentration in Precision Engineering and Metrology program is intended for students interested in specialized and systematic training and education in the area of precision engineering. Students completing the requirements described in this program will receive a special designation on their transcripts showing that they have completed the Precision Engineering and Metrology concentration.

## Admission Requirements

### First-Year Students

First-year admission is competitive, based upon an overall evaluation of the high school record, with particular emphasis on advanced courses in math and science. See University Admission Requirements for a detailed description of the criteria.

First-Year students may either select a major at the time of their application or may choose to be Engineering-undeclared. All First-Year College of Engineering students will take a common set of courses called the Common First Year. Towards the end of their first year, having completed all progression requirements, students will declare or confirm their Engineering Major for the second through fourth years. This selection may be the major they initially indicated or any other engineering major for which they meet the progression requirements.

### Transfers

All transfer students will be evaluated for placement into a departmental Program or the Common First Year program based on the evaluation of their transfer credits (consistent with the North Carolina articulation agreements).

- See University Admission Requirements
- Minimum GPA: 2.50 (2.80 for Mechanical Engineering)
- Pre-Major/Prerequisite Courses:
  - Engineering Programs: Calculus I course (equivalent to MATH 1241), with a grade of C or above
  - Engineering Technology Programs: Pre-calculus course (equivalent to MATH 1103) or higher, with a grade of C or above
- Transferable Credit Hours: Minimum of 24

Transfers from an ABET-accredited engineering program who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

### Additional Admission Requirements for the Concentration

- Minimum GPA: 3.00

- *Prerequisite Courses*(with grades of C or above):
  PHYS 2101
  PHYS 2101L
  MATH 1242
  ENGR 1300
  ENGR 1301
  ENGR 1302
  ENGR 1303
  WRDS 1103 or WRDS 1104
  MEGR 2141
- *Declaration of Concentration*: Students must apply for admission to and may enter the concentration during their Sophomore or Junior year.
- In order to remain in the concentration, a minimum overall GPA of 3.00 must be maintained.

**Currently Enrolled Students**
**Internal Change of Major**
Internal change of majors within the College of Engineering must have a minimum GPA of 2.50 (2.80 for Mechanical Engineering). Students who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

**Change of Major Into a Program in the College of Engineering**
First-time college students who seek eligibility for a change of major from a non-engineering major into an engineering program are required to:

- Complete the First-Year Curriculum.
- Have no more than two attempts per course, including withdrawing from a course with a grade of W.
- Achieve an overall GPA of 2.50 (2.80 for Mechanical Engineering).

**Students Seeking Eligibility for a Change of Major**
- Should continue to be advised by their current advisor.
- Should focus on successfully completing courses that count towards the program of interest and not rely on grades in unrelated courses to elevate the GPA.
- Are not permitted to enroll in Sophomore engineering courses.
- May request authorization to enroll in ENGR 1300, ENGR 1301, ENGR 1302 or ENGR 1303 via a request to the College of Engineering Advising department at osds-advising@charlotte.edu.

**Transfers Seeking Eligibility for a Change of Major**
Students who transfer to Charlotte into a non-engineering major and have not met the Transfer Requirements for a given engineering program are not guaranteed to be considered for a change of major. Representatives of the program of interest make decisions on a student's eligibility to pursue a change of major based on a holistic review of a student's entire academic record, including grades earned at other institutions. A record of unsuccessful attempts in courses will weigh negatively on such decisions. If transfer students are allowed to pursue eligibility for a change of major to a given program, they will be required to:

- Complete the Common First-Year Curriculum.
- Have no more than two attempts per course including withdrawing from a course with a grade of W.
- Achieve an overall GPA of 2.50 (2.80 for Mechanical Engineering).
- Complete at least 12 credits of courses at Charlotte, including at least four courses in math, science and/or engineering.

## Common First-Year Curriculum (CFY)
The College of Engineering uses a Common First-Year Curriculum (CFY) for all Engineering students in order to:
- Provide a strong academic base of foundational knowledge and skills
- Facilitate changing majors within the first year
- Support students with lower math placement and increase access to all majors
- Allow students to explore different majors before committing
- Enhance learning with innovative pedagogies and activities

**Common First-Year Courses**
All new first-year students are initially advised by a central office within the W.S. Lee College of Engineering. Students must complete the following classes that are common to all majors of the college (except Construction Management and Fire and Safety Engineering Technology) in order to progress and matriculate to their major department. *All First-Year Curriculum courses require a grade of C or better.*

ENGR 1300 Exploring Engineering & Technology with Success (2)
ENGR 1301 Foundations of Math and Science for Engineering (3)
ENGR 1302 Logic and Computational Problem Solving (3)
ENGR 1303 Engineering Visualization and Graphical Communication (3)
PHYS 2101 (3)
PHYS 2101L (1)
Two MATH courses: MATH 1103* or MATH 1241* or MATH 1242* (3 each)
*See Notes 1 and 2 below*

* All students should consult their advisor to select the math courses that match their planned major.

***Note 1***
Progression into Civil Engineering, Computer Engineering, Construction Engineering, Electrical Engineering, Environmental Engineering, Mechanical Engineering, and Systems Engineering Major Courses after completing the Common First Year Curriculum requires that students also complete MATH 1241, MATH 1242, PHYS 2101, and PHYS 2101L.

***Note 2***
Progression into Civil Engineering Technology, Electromechanical Engineering Technology, and Mechanical Engineering Technology Major Courses after completing the Common First Year Curriculum requires that students complete MATH 1241, PHYS 2101, and PHYS 2101L with a C or better (except for Electromechanical Engineering Technology).

***Note 3***
Students must earn at least a 2.0 GPA in the first semester to continue into the second semester.

## Degree Requirements
The BSME requires courses in Math, Science, Engineering and General Education. Some Math and Physics courses also satisfy General Education Requirements. The concentration in Precision Engineering and Metrology requires a Precision/Metrology-related senior design project as well as Precision/Metrology Technical Electives.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**First-Year Courses (21 credit hours)**
See Common First-Year Curriculum (CFY) for details.

**Additional Math and Physics Courses (10 credit hours)**
MATH 2171 - Differential Equations (3)
MATH 2241 - Calculus III (3)
PHYS 2102 - Physics for Science and Engineering II (3)
PHYS 2102L - Physics for Science and Engineering II Laboratory (1)

**Major Courses (59 credit hours)**
ENGR 3295 - Multidisciplinary Professional Development (1)
MEGR 2141 - Engineering Mechanics I (3)
MEGR 2144 - Introduction to Solid Mechanics (3)
MEGR 2152 - CAD for Mechanical Engineers (1)
MEGR 2157 - Design Projects I Laboratory (3)
MEGR 2173 - Mechatronics I (2)
MEGR 2174 - Mechatronics I Projects Laboratory (1)
MEGR 2180 - Manufacturing Systems (3)
MEGR 2233 - Math and Science for Engineers II (3)
MEGR 2234 - Math and Science for Engineers III (4)
MEGR 2242 - Computational Methods for Engineers (2)
MEGR 3111 - Thermodynamics I (3)
MEGR 3114 - Fluid Mechanics (3)
MEGR 3116 - Introduction to Heat Transfer (3)
MEGR 3121 - Dynamics Systems I (3)
MEGR 3123 - Dynamic Systems II (2)
MEGR 3152 - Mechanics and Materials Laboratory (2)
MEGR 3156 - Design Projects Lab II (2)
MEGR 3161 - Introduction to Engineering Materials (3)
MEGR 3173 - Mechatronics II (2)
MEGR 3174 - Mechatronics II Projects Laboratory (1)
MEGR 3251 - Thermal/Fluids Laboratory (2)
MEGR 3285 - Precision Senior Design I (2) *
MEGR 3286 - Precision Senior Design II (2) *
* *Must be an approved Precision Engineering/Metrology-related project.*

Design Elective: Thermal/Fluids Design or Machine Analysis and Design
MEGR 3216 - Thermal/Fluid Design (3)
or MEGR 3221 - Machine Analysis and Design I (3)

These courses require a grade of C or better for the Mechanical Engineering curriculum: ENGR 1300, ENGR 1301, ENGR 1302, ENGR 1303, MATH 1241, MATH 1242, MATH 2171, MATH 2241, PHYS 2101, PHYS 2101L, PHYS 2102, PHYS 2102L, MEGR 2141, MEGR 2144, MEGR 2152, MEGR 2157, MEGR 2180, MEGR 2173, MEGR 2174, MEGR 2233, MEGR 2234, MEGR 2242, MEGR 3111, MEGR 3114, MEGR 3121, MEGR 3156, MEGR 3161, and MEGR 3174. Additional courses may require a grade of C or better for Technical Electives.

**Concentration in Precision Engineering and Metrology (12-13 credit hours)**
***Required Introductory Course***
MEGR 2289 – Introduction to Precision Engineering and Metrology (1)

***Required Precision/Metrology Technical Elective***
All students in the concentration are required to successfully complete MEGR 3280.

MEGR 3280 - Metrology Fundamentals Laboratory (3)

***Additional Precision/Metrology Technical Electives***
*Select three of the following:*
MEGR 3028 - Special Topics in Precision Engineering (2)
MEGR 3221 - Machine Analysis and Design I (3) (MEGR 3221 may count as a Precision Technical Elective only if MEGR 3216 is completed to fulfill the Design Elective)
MEGR 3225 - Introduction to Finite Element Analysis (3)
MEGR 3231 - Advanced CAD/CAM (3)
MEGR 3282 - Data-Driven Quality Engineering and Metrology (3)
MEGR 3283 - Practical Applications of Precision Engineering and Metrology (3)
MEGR 4098 - Special Topics in Precision Engineering (3)
MEGR 4235 - Waves and Optics (3)
MEGR 4237 - Introduction to Control Systems (3)
MEGR 4280 - Advanced Manufacturing Processes (3)
MEGR 4281 - GD&T for Design and Inspection (3)
MEGR 4282 - Fundamentals of Precision Machine Design (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 credit hours

## Progression Requirements
After completing the Common First Year Curriculum (CFY) courses, students will decide on their engineering major for their second through fourth years, which may be the major they initially indicated or any other engineering major. Students must meet the following requirements in order to register for major courses:

**Engineering Majors**
Engineering majors must complete all of the requirements below before enrolling in W.S. Lee College of Engineering sophomore-year engineering courses.

- Pass all courses within two attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1242, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.5 cumulative GPA upon completion of the Common First Year Curriculum courses (2.80 for Mechanical Engineering majors)

**Engineering Technology and Construction Management Majors Civil Engineering Technology**

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum,

including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Electromechanical Engineering Technology**
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241 with grade of C or above and PHYS 2101 and PHYS 2101L
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Mechanical Engineering Technology**
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.2 cumulative GPA upon completion of the Common First Year Courses

**Construction Management**
- Complete CMET 1400, ETCE 1222, ETCE 1211L, and MATH 1103
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Fire & Safety)**
- Complete ETFS 1152, ETFS 1201, ETFS 1220, ETFS 1244, and MATH 1100
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Occupational Safety)**
- Complete BIOL 1110, ETFS 1201, ETFS 1220, ETGR 2230, MATH 1103, PSYC 1101 and STAT 1220
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

# Bachelor of Science in Mechanical Engineering and Bachelor of Arts in Physics Dual Degree

The Department of Physics and Optical Science and Department of Mechanical Engineering and Engineering Science offer a dual degree designed to broaden and enhance the education of students in the mechanical engineering and physics degree programs. Students can obtain a B.A. in Physics and B.S. in Mechanical Engineering dual degree.

## Admission Requirements

### First-Year Students

First-year admission is competitive, based upon an overall evaluation of the high school record, with particular emphasis on advanced courses in math and science. See University Admission Requirements for a detailed description of the criteria.

First-Year students may either select a major at the time of their application or may choose to be Engineering-undeclared. All First-Year College of Engineering students will take a common set of courses called the Common First Year. Towards the end of their first year, having completed all progression requirements, students will declare or confirm their Engineering Major for the second through fourth years. This selection may be the major they initially indicated or any other engineering major for which they meet the progression requirements.

### Transfers

All transfer students will be evaluated for placement into a departmental Program or the Common First Year program based on the evaluation of their transfer credits (consistent with the North Carolina articulation agreements).

- See University Admission Requirements
- Minimum GPA: 2.50 (2.80 for Mechanical Engineering)
- Pre-Major/Prerequisite Courses:
  - Engineering Programs: Calculus I course (equivalent to MATH 1241), with a grade of C or above
  - Engineering Technology Programs: Pre-calculus course (equivalent to MATH 1103) or higher, with a grade of C or above
- Transferable Credit Hours: Minimum of 24

Transfers from an ABET-accredited engineering program who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

## Additional Admission Requirements for Dual Degree: B.A. in Physics and BSME

### First-Year Students and Transfers

- See University Admission Requirements
- *Minimum GPA:* 2.00 (cumulative and Physics)
- *Pre-Major/Prerequisite Courses:* Complete the following with grades of C or above and no more than 2 attempts per course:
  - PHYS 2101
  - PHYS 2102
  - MATH 2241

## Currently Enrolled Students

### Internal Change of Major

Internal change of majors within the College of Engineering must have a minimum GPA of 2.50 (2.80 for Mechanical Engineering). Students who do not meet the GPA requirement may be admitted upon the recommendation of the chair of the major department.

### Change of Major Into a Program in the College of Engineering

First-time college students who seek eligibility for a change of major from a non-engineering major into an engineering program are required to:

- Complete the First-Year Curriculum.
- Have no more than two attempts per course, including withdrawing from a course with a grade of W.
- Achieve an overall GPA of 2.50 (2.80 for Mechanical Engineering).

### Students Seeking Eligibility for a Change of Major

- Should continue to be advised by their current advisor.
- Should focus on successfully completing courses that count towards the program of interest and not rely on grades in unrelated courses to elevate the GPA.
- Are not permitted to enroll in Sophomore engineering courses.
- May request authorization to enroll in ENGR 1300, ENGR 1301, ENGR 1302 or ENGR 1303 via a request to the College of Engineering Advising department at osds-advising@charlotte.edu.

### Transfers Seeking Eligibility for a Change of Major

Students who transfer to Charlotte into a non-engineering major and have not met the Transfer Requirements for a given engineering program are not guaranteed to be considered for a change of major. Representatives of the program of interest make decisions on a student's eligibility to pursue a change of major based on a holistic review of a student's entire academic record, including grades earned at other institutions. A record of unsuccessful attempts in courses will weigh negatively on such decisions. If transfer students are allowed to pursue eligibility for a change of major to a given program, they will be required to:

- Complete the Common First-Year Curriculum.
- Have no more than two attempts per course including withdrawing from a course with a grade of W.
- Achieve an overall GPA of 2.50 (2.80 for Mechanical Engineering).
- Complete at least 12 credits of courses at Charlotte, including at least four courses in math, science and/or engineering.

## Common First-Year Curriculum (CFY)

The College of Engineering uses a Common First-Year Curriculum (CFY) for all Engineering students in order to:

- Provide a strong academic base of foundational knowledge and skills
- Facilitate changing majors within the first year
- Support students with lower math placement and increase access to all majors
- Allow students to explore different majors before committing
- Enhance learning with innovative pedagogies and activities

### Common First-Year Courses

All new first-year students are initially advised by a central office within the W.S. Lee College of Engineering. Students must complete the following classes that are common to all majors of the college (except Construction Management and Fire and Safety Engineering Technology) in order to progress and matriculate to their major department. *All First-Year Curriculum courses require a grade of C or better.*

ENGR 1300 Exploring Engineering & Technology with Success (2)
ENGR 1301 Foundations of Math and Science for Engineering (3)
ENGR 1302 Logic and Computational Problem Solving (3)
ENGR 1303 Engineering Visualization and Graphical Communication (3)
PHYS 2101 (3)
PHYS 2101L (1)
Two MATH courses: MATH 1103* or MATH 1241* or MATH 1242* (3 each) *See Notes 1 and 2 below*

* All students should consult their advisor to select the math courses that match their planned major.

***Note 1***

Progression into Civil Engineering, Computer Engineering, Construction Engineering, Electrical Engineering, Environmental Engineering, Mechanical Engineering, and Systems Engineering Major Courses after completing the Common First Year Curriculum requires that students also complete MATH 1241, MATH 1242, PHYS 2101, and PHYS 2101L.

***Note 2***

Progression into Civil Engineering Technology, Electromechanical Engineering Technology, and Mechanical Engineering Technology Major Courses after completing the Common First Year Curriculum requires that students complete MATH 1241, PHYS 2101, and PHYS 2101L with a C or better (except for Electromechanical Engineering Technology).

***Note 3***

Students must earn at least a 2.0 GPA in the first semester to continue into the second semester.

## Degree Requirements

To obtain a dual degree, B.A. in Physics and B.S. in Mechanical Engineering, undergraduate students must complete all requirements for the B.S.M.E. degree as established by the Department of Mechanical Engineering and Engineering Science. In addition, students must complete 12 credit hours of upper-division PHYS courses specified by the Department of Physics and Optical Science with an average grade C or above. A B.A. in Physics under this program will be awarded at the same time as or after the B.S.M.E. The B.A. in Physics degree will not be awarded in advance of the B.S. in Mechanical Engineering degree.

### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

### First-Year Courses (21 credit hours)

See Common First-Year Curriculum (CFY) for details.

### Additional Math and Physics Courses (10 credit hours)

MATH 2171 - Differential Equations (3)
MATH 2241 - Calculus III (3)

PHYS 2102 - Physics for Science and Engineering II (3)
PHYS 2102L - Physics for Science and Engineering II Lab (1)

**Major Courses (59 credit hours)**
ENGR 3295 - Multidisciplinary Professional Development (1)
MEGR 2141 - Engineering Mechanics I (3)
MEGR 2144 - Introduction to Solid Mechanics (3)
MEGR 2152 - CAD for Mechanical Engineers (1)
MEGR 2157 - Design Projects I Laboratory (3)
MEGR 2173 - Mechatronics I (2)
MEGR 2174 - Mechatronics I Projects Laboratory (1)
MEGR 2180 - Manufacturing Systems (3)
MEGR 2233 - Math and Science for Engineers II (3)
MEGR 2234 - Math and Science for Engineers III (4)
MEGR 2242 - Computational Methods for Engineers (2)
MEGR 3111 - Thermodynamics I (3)
MEGR 3114 - Fluid Mechanics (3)
MEGR 3116 - Introduction to Heat Transfer (3)
MEGR 3121 - Dynamic Systems I (3)
MEGR 3123 - Dynamic Systems II (2)
MEGR 3152 - Mechanics and Materials Lab (2)
MEGR 3156 - Design Project Lab II (2)
MEGR 3161 - Introduction to Engineering Materials (3)
MEGR 3173 - Mechatronics II (2)
MEGR 3174 - Mechatronics II Projects Laboratory (1)

Design Elective: Thermal/Fluids Design or Machine Analysis and Design
MEGR 3216 - Thermal/Fluid Design (3)
or MEGR 3221 - Machine Analysis and Design I (3)

MEGR 3251 - Thermals/Fluids Lab (2)
MEGR 3255 - Senior Design I (2)
MEGR 3256 - Senior Design II (2)

These courses require a grade of C or better for the Mechanical Engineering curriculum: ENGR 1300, ENGR 1301, ENGR 1302, ENGR 1303, MATH 1241, MATH 1242, MATH 2171, MATH 2241, PHYS 2101, PHYS 2101L, PHYS 2102, PHYS 2102L, MEGR 2141, MEGR 2144, MEGR 2152, MEGR 2157, MEGR 2180, MEGR 2173, MEGR 2174, MEGR 2233, MEGR 2234, MEGR 2242, MEGR 3111, MEGR 3114, MEGR 3121, MEGR 3156, MEGR 3161, and MEGR 3174. Additional courses may require a grade of C or better for Technical Electives.

***Technical Elective Courses (12 credit hours)***
*Select four of the following. At least three of the four must be MEGR courses.*
BIOL 3161 - Introduction to Biotechnology (3)
MATH 3171 - Applied Mathematics (3)
MEGR 3090 - Special Topics in Mechanical Engineering (3)
MEGR 3092 - Special Topics in Motorsports Engineering (3)
MEGR 3094 - Special Topics in Energy Engineering (3)
MEGR 3097 - Special Topics in Biomedical Engineering (3)
MEGR 3162 - Mechanical Behavior and Strengthening of Solids (3)
MEGR 3214 - Refrigeration and Air/Conditioning (3)
MEGR 3221 - Machine Analysis and Design I (3) *(May count as a Technical Elective only if MEGR 3216 is completed to fulfill the Design Elective)*
MEGR 3225 - Introduction to Finite Element Analysis (3)
MEGR 3231 - Advanced CAD/CAM (3)
MEGR 3232 - Plastic Part Design (3)
MEGR 3233 - Introduction to Biomaterials (3)
MEGR 3234 - Introduction to Biodynamics (3)
MEGR 3236 - Introduction to Nanoscale Science and Engineering (3)
MEGR 3238 - Microscopy for Engineering (3)
MEGR 3241 - Advanced Motorsports Instrumentation (3)
MEGR 3245 - Advanced Experimental Methods (3)
MEGR 3260 - Clean Coal Technology (3)
MEGR 3261 - Sustainable Energy (3)
MEGR 3262 - Turbomachinery (3)
MEGR 3270 - Biomedical Fluidics: Microfluidics (3)
MEGR 3271 - Biomedical Manufacturing: 3D Biofabrication (3)
MEGR 3272 - Introduction to Bio-Polymers and Composites (3)
MEGR 3280 - Metrology Fundamentals Laboratory (3)
MEGR 3282 - Data-Driven Quality Engineering and Metrology (3)
MEGR 3283 - Practical Applications of Precision Engineering and Metrology (3)
MEGR 3452 - Introduction to Nuclear Engineering (3)
MEGR 4090 - Special Topics in Mechanical Engineering (3)
MEGR 4091 - Special Topics in Aerospace Engineering (3)
MEGR 4092 - Special Topics in Motorsports Engineering (3)
MEGR 4094 - Special Topics in Energy Engineering (3)
MEGR 4097 - Special Topics in Biomedical Engineering (3)
MEGR 4098 - Special Topics in Precision Engineering (3)
MEGR 4127 - Introduction to Robotics (3)
MEGR 4143 - Discrete Mechanical Vibrating Systems (3)
MEGR 4210 - Automotive Powerplants (3)
MEGR 4211 - Road Vehicle Dynamics (3)
MEGR 4212 - Advanced Road Vehicle Dynamics (3)
MEGR 4213 - Hybrid and Alternative Fuels Automotive Power Plants (3)
MEGR 4235 - Waves and Optics (3)
MEGR 4237 - Introduction to Control Systems (3)
MEGR 4240 - Advanced Automotive Powerplants (3)
MEGR 4242 - Applied Vehicle Aerodynamics (3)
MEGR 4244 - Tire Mechanics (3)
MEGR 4271 - Orthopedic Biomechanics (3)
MEGR 4272 - Mechanics of the Human Locomotor System (3)
MEGR 4273 - Regenerative Neural Engineering (3)
MEGR 4274 - Bioelectronic Medicine (3)
MEGR 4280 - Advanced Manufacturing Processes (3)
MEGR 4281 - GD&T for Design and Inspection (3)
MEGR 4282 - Fundamentals of Precision Machine Design (3)
MEGR 4290 - Introduction to Electric Vehicles and Batteries (3)
MEGR 4291 - Battery Performance and Testing (3)
MEGR 4292 - Materials Science in Battery Technology (3)
MEGR 4310 - Uncrewed Aerial Vehicles (3)
MEGR 4311 - Aerospace Materials (3)
MEGR 4312 - Aerospace Propulsion (3)
MEGR 4313 - Astromechanics (3)
PHYS 3220 - Mathematical Methods in Physics (3)
PHYS 4110 - Introduction to Biomedical Optics (3)
PHYS 4140 - Nuclear Physics (3)
PHYS 4232 - Electromagnetic Theory II (3)
PHYS 4242 - Quantum Mechanics II (3)
PHYS 4271 - Waves and Optics (3)

**Physics Courses (12 credit hours)**
***Required Physics Courses (12 credit hours)***
PHYS 3141 - Introduction to Modern Physics (3)
PHYS 3220 - Mathematical Methods in Physics (3)
PHYS 4231 - Electromagnetic Theory I (3)

PHYS 4241 - Quantum Mechanics I (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 129-132 credit hours

## Progression Requirements

After completing the Common First Year Curriculum (CFY) courses, students will decide on their engineering major for their second through fourth years, which may be the major they initially indicated or any other engineering major. Students must meet the following requirements in order to register for major courses:

**Engineering Majors**
Engineering majors must complete all of the requirements below before enrolling in W.S. Lee College of Engineering sophomore-year engineering courses.

- Pass all courses within two attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1242, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.5 cumulative GPA upon completion of the Common First Year Curriculum courses (2.80 for Mechanical Engineering majors)

**Engineering Technology and Construction Management Majors**
**Civil Engineering Technology**

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Electromechanical Engineering Technology**

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241 with grade of C or above and PHYS 2101 and PHYS 2101L
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the Common First Year courses

**Mechanical Engineering Technology**

- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete all courses in the Common First Year Curriculum, including MATH 1241, PHYS 2101, and PHYS 2101L, with grades of C or above
- Complete the Common First Year Curriculum within four semesters
- Earn a 2.2 cumulative GPA upon completion of the Common First Year Courses

**Construction Management**

- Complete CMET 1400, ETCE 1222, ETCE 1211L, and MATH 1103
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Fire & Safety)**

- Complete ETFS 1152, ETFS 1201, ETFS 1220, ETFS 1244, and MATH 1100
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

**Fire & Safety Engineering Technology (Occupational Safety)**

- Complete BIOL 1110, ETFS 1201, ETFS 1220, ETGR 2230, MATH 1103, PSYC 1101 and STAT 1220
- Pass all courses within three attempts, including withdrawing from a course with a grade of W
- Complete the Common First Year curriculum within four semesters
- Earn a 2.0 cumulative GPA upon completion of the First Year core courses

## Additional Progression Requirements for the Dual Degree Program

Students must have a 2.00 or above GPA in PHYS courses in order to graduate.

# Minor in Mechanical Engineering

The Department of Mechanical Engineering offers a minor in Mechanical Engineering (MEGR) for non-MEGR majors.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Overall GPA of 2.80 or higher
- Completion of MATH 1242 and PHYS 2101, both with a grade of C or better
- A major other than Mechanical Engineering (MEGR)

## Minor Requirements

A minor in Mechanical Engineering consists of 15 credit hours and requires the following:

**Core Courses (12 credit hours)**
The following four courses are required. All prerequisites for the courses must be satisfied prior to course enrollment.

MEGR 2141 – Engineering Mechanics I (3)
MEGR 2144 – Introduction to Solid Mechanics (3)

MEGR 3111 – Thermodynamics I (3)
MEGR 3121 – Dynamics Systems I (3)

**Elective Course (3 credit hours)**
Students are required to complete at least one elective course from the courses listed below. All prerequisites for the selected elective course(s) must be satisfied prior to course enrollment.

MEGR 2240 - Computational Methods for Engineers (3)
MEGR 3090 - Special Topics in Mechanical Engineering (3)
MEGR 3092 - Special Topics in Motorsports Engineering (3)
MEGR 3094 - Special Topics in Energy Engineering (3)
MEGR 3097 - Special Topics in Biomedical Engineering (3)
MEGR 3112 - Thermodynamics II (3)
MEGR 3114 - Fluid Mechanics (3)
MEGR 3116 - Introduction to Heat Transfer (3)
MEGR 3121 - Dynamics Systems I (3)
MEGR 3122 - Dynamic Systems II (3)
MEGR 3161 - Introduction to Engineering Materials (3)
MEGR 3210 - Automotive Power Plants (3)
MEGR 3211 - Road Vehicle Dynamics (3)
MEGR 3214 - Refrigeration and Air/Conditioning (3)
MEGR 3216 - Thermal/Fluid Design (3)
MEGR 3221 - Machine Analysis and Design I (3)
MEGR 3225 - Introduction to Finite Element Analysis (3)
MEGR 3231 - Advanced CAD/CAM (3)
MEGR 3232 - Plastic Part Design (3)
MEGR 3233 - Introduction to Biomaterials (3)
MEGR 3234 - Introduction to Biodynamics (3)
MEGR 3235 - Waves and Optics (3)
MEGR 3236 - Introduction to Nanoscale Science and Engineering (3)
MEGR 3237 - Introduction to Control Systems (3)
MEGR 3238 - Microscopy for Engineering(3)
MEGR 3241 - Advanced Motorsports Instrumentation (3)
MEGR 3242 - Applied Vehicle Aerodynamics (3)
MEGR 3244 - Tire Mechanics (3)
MEGR 3260 - Clean Coal Technology (3)
MEGR 3261 - Sustainable Energy (3)
MEGR 3262 - Turbomachinery (3)
MEGR 3272 - Introduction to Bio-Polymers and Composites (3)
MEGR 3282 - Data-Driven Quality Engineering and Metrology (3)
MEGR 3283 - Practical Applications of Precision Engineering and Metrology (3)
MEGR 3452 - Introduction to Nuclear Engineering (3)
MEGR 4090 - Special Topics in Mechanical Engineering (3)
MEGR 4092 - Special Topics in Motorsports Engineering (3)
MEGR 4094 - Special Topics in Energy Engineering (3)
MEGR 4097 - Special Topics in Biomedical Engineering (3)
MEGR 4098 - Special Topics in Precision Engineering (3)
MEGR 4127 - Introduction to Robotics (3)
MEGR 4143 - Discrete Mechanical Vibrating Systems (3)
MEGR 4210 - Automotive Powerplants (3)
MEGR 4211 - Road Vehicle Dynamics (3)
MEGR 4235 - Waves and Optics (3)
MEGR 4237 - Introduction to Control Systems (3)
MEGR 4242 - Applied Vehicle Aerodynamics (3)
MEGR 4244 - Tire Mechanics (3)
MEGR 4271 - Orthopedic Biomechanics (3)
MEGR 4272 - Mechanics of the Human Locomotor System (3)
MEGR 4273 - Regenerative Neural Engineering (3)
MEGR 4274 - Bioelectronic Medicine (3)
MEGR 4280 - Advanced Manufacturing Processes (3)

### Minor Total = 15 Credit Hours

### Progression Requirements
Students in the minor are required to:
- Achieve a minimum GPA of 2.00 in all minor courses
- Successfully complete all courses within two attempts
- Complete MATH 2171 with a grade of C or better in order to be eligible to register for MEGR 3111 and any other courses in the minor that have MATH 2171 as a prerequisite

### Special Policies or Requirements
This minor is not available for students with a major in Mechanical Engineering.

## Early Entry: Master of Science in Mechanical Engineering
Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
- See University Admission Requirements
- Completion of at least 75 earned undergraduate credit hours applicable to the B.S.M.E. degree
- Minimum 3.20 overall undergraduate GPA
- Acceptable scores on the GRE (*Exceptional undergraduate students with a cumulative GPA of 3.20 or above may receive an automatic waiver of the GRE requirement*).
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approval by The Graduate School

### Progression Requirements
- Completion of Early Entry Program Form prior to registering for graduate coursework each semester
- Maintain a minimum 3.00 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree.

### Special Policies or Requirements
Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate*

*Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# College of Health and Human Services

# College of Health and Human Services

health.charlotte.edu

The College of Health and Human Services (CHHS) offers professionally recognized and accessible undergraduate and graduate degree programs that are nationally and globally relevant, and responsive to changing health care and human service needs in the state and region. The College achieves excellence through informed and effective teaching in its degree programs, community partnerships, and professional activities and research to advance science and practice in the health and human services professions.

The College of Health and Human Services consists of these academic units:

- **Department of Applied Physiology, Health, and Clinical Sciences**
- **Department of Public Health and Health Administration**
- **School of Nursing**
- **School of Social Work**

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

## Degree Programs

### Majors

- Bachelor of Science in Exercise Science (B.S.)
- Bachelor of Science in Health Systems Management (B.S.)
- Bachelor of Science in Nursing (B.S.N.)
- Bachelor of Science in Public Health (B.S.P.H.)
- Bachelor of Science in Respiratory Therapy (B.S.R.T.)
- Bachelor of Social Work (B.S.W.)
- Bachelor of Science in Sports Analytics (B.S.)

### Minors

- Gerontology
- Outdoor Adventure Leadership
- Public Health

### Certificates

- Undergraduate Certificate in Clinical Research Management
- Undergraduate Certificate in Nutrition
- Undergraduate Certificate in Sports Analytics

### Accreditation

See the "Academic Programs" section of this Catalog for details about program accreditation.

### Technical Standards

Technical standards define the attributes that are considered necessary for nursing students to possess in order to complete their education and training, and subsequently enter clinical practice. These technical standards are prerequisites for entrance to, continuation in, and graduation from a student's chosen program in the College of Health and Human Services at the University of North Carolina at Charlotte.

Students must possess aptitude, ability, and skills in four areas: Psychomotor (coordination/mobility); Senses (visual, auditory, tactile, olfactory); Communication (verbal, nonverbal, written); and Behavioral/Social Attributes.

The technical standards described by the student's chosen program are critically important to the student and must be performed by the student. Contact specific programs for detailed technical standards. Documentation of any disability is accomplished through the University Office of Disability Services.

### Foreign Language Requirement

There is no foreign language requirement for undergraduate students enrolled as majors within the College of Health and Human Services, although it is highly recommended for students to become proficient in a second language.

# Department of Applied Physiology, Health, and Clinical Sciences

aphcs.charlotte.edu

## Undergraduate Programs

- B.S. in Exercise Science
  - Health and Fitness
  - Pre-Professional
  - Strength and Conditioning
  - Honors Program
- B.S.R.T. in Respiratory Therapy
  - Honors Program
- B.S. in Sports Analytics
- Minor in Outdoor Adventure Leadership
- Undergraduate Certificate in Clinical Research Management
- Undergraduate Certificate in Nutrition
- Undergraduate Certificate in Sports Analytics
- Early Entry: M.S. in Athletic Training
- Early Entry: M.S. in Kinesiology
- Early Entry: M.S. in Respiratory Care

The mission of the Department of Applied Physiology, Health, and Clinical Sciences is to promote optimal health and well-being by encouraging life-long movement and activity in a variety of populations through scholarly research, teaching, and service. The department offers both undergraduate majors and minors, graduate programs, and multiple courses emphasizing lifetime physical activity and physical fitness.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

## Bachelor of Science in Exercise Science *with Concentration in Health and Fitness*

The Exercise Science degree program offers preparation for employment as Exercise Science practitioners in business and industry, healthcare agencies, hospitals, fitness centers, sports performance centers, schools, and other settings which utilize exercise and physical activity to promote healthy active lifestyles and outcomes.

Exercise Science majors have the option to declare the Health and Fitness Concentration. The curriculum prepares students to apply industry standard, evidence-based guidelines to the roles and responsibilities of an exercise science practitioner, including: pre-activity screening, health and fitness assessment, exercise prescription, and risk management. Students are encouraged to sit for the American College of Sports Medicine Certified Exercise Physiologist Credentialing Exam.

The Exercise Science Health and Fitness concentration is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) and the Committee on Accreditation of the Exercise Science (CoAES).

### Admission Requirements

#### Freshmen and Transfers

- See University Admission Requirements
- *Minimum GPA*: 2.0
- *Pre-Major/Prerequisite Courses:* Completion of 36 credit hours of coursework. Grade of C or above in all Pre-Exercise Science courses.
  - EXER 2101
  - EXER 2150
  - EXER 2168
  - EXER 2168L
  - EXER 2169
  - EXER 2169L
  - CHEM 1203 or CHEM 1251
  - CHEM 1203L or CHEM 1251L
  - STAT 1220, STAT 1221, or STAT 1222
- All Pre-Exercise Science majors are subject to a Conduct Check facilitated by the Dean of Students Office. The result may impact acceptance into the Exercise Science program.
- *Transferable Credit Hours:* 24

#### Currently Enrolled Students

- *Declaration of Major:* All incoming students are initially classified as Pre- Exercise Science (PEXE) majors until the requirements above are met in order to apply to the upper-division Exercise Science (EXER) major.
- *Declaration of Concentration:* Students must be an Exercise Science major and complete a Concentration Application.

### Degree Requirements

#### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

#### Prerequisite Courses (21 credit hours)

EXER 2101 - Foundations of Physical Conditioning (3)
EXER 2150 - Introduction to Exercise Science (3)
EXER 2168 - Human Anatomy and Physiology for the Health Professions (3)
EXER 2168L - Human Anatomy and Physiology Laboratory for the Health Professions (1)
EXER 2169 - Human Anatomy and Physiology for the Health Professions II (3)
EXER 2169L - Human Anatomy and Physiology for the Health Professions II Laboratory (1)
CHEM 1203 - Introduction to General, Organic, and Biochemistry I (3) or CHEM 1251 - General Chemistry I (3)
CHEM 1203L - Introduction to General, Organic, and Biochemistry I Laboratory (1)

or CHEM 1251L - General Chemistry I Laboratory (1)
STAT 1220 - Elements of Statistics I (BUSN) (3)
or STAT 1221 - Elements of Statistics I (3)
or STAT 1222 - Introduction to Statistics (3)

**Major Courses (27 credit hours)**
EXER 3198 - Applied Kinesiology (3)
EXER 3260 - Nutrition for the Physically Active (3)
EXER 3280 - Exercise Physiology: Foundation and Theory (3)
EXER 3285 - Principles of Strength and Conditioning (3)
EXER 3286 - Exercise Testing: Foundation and Theory (3)
EXER 3287 - Exercise Testing: Principles and Applications (3)
EXER 4121 - Pharmacology for the Physically Active (3)
EXER 4286 - Exercise Prescription (3)
EXER 4293 - Biomechanics (3)

**Concentration Courses (19 credit hours)**
***Required Courses (10 credit hours)***
EXER 2290 - Emergency Medical Response (3)
EXER 3100 - Organization and Administration of Exercise Science (3)
EXER 3660 - Practitioner Seminar (1)
EXER 4132 - Lifetime Weight Management and Behavior Change (3)
or EXER 4291 - Principles of Coaching for Exercise and Sport (3)
or EXER 4333 - Sport and Exercise Psychology (3)

***Internship (9 credit hours)***
*EXER 4490 is taken during the last semester in the major. All required major courses (except EXER 4132 or EXER 4333 or EXER 4291) must be completed with a grade of C or above prior to the internship.*

EXER 4490 - Exercise Science Internship (9)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements
All of the required courses for the Pre-Exercise Science major, Exercise Science major, and Health and Fitness concentration must be completed with a grade of C or above. Students may repeat each required Pre-Exercise Science or Exercise Science or Concentration course once, for a total of 2 attempts. Withdrawals are not counted towards the repeat limits, but students are limited to 16 credit hours of self-withdrawals during their academic career. If a student does not earn a grade of C or higher within the two allowed attempts, he/she/they will be dismissed from the major. If a student feels he/she/they have grounds to appeal this policy, an appeal may be submitted for review by the Program Director and Exercise Science Committee.

## Honors Program
For details about the Honors Program in the Department of Applied Physiology, Health, and Clinical Sciences, see the Honors Programs section below.

# Bachelor of Science in Exercise Science *with Pre-Professional Concentration*
The Exercise Science major with a Pre-Professional Concentration prepares students to pursue professional graduate health care programs including, but not limited to, athletic training, occupational therapy, physical therapy, and physician associate.

## Admission Requirements
**Freshmen and Transfers**
- See University Admission Requirements
- *Pre-Major/Prerequisite Courses:* Completion of 36 credit hours of coursework. Grade of C or above in all Pre-Exercise Science courses. The prerequisites are:
  EXER 2101
  EXER 2150
  EXER 2168 or BIOL 2273
  EXER 2168L or BIOL 2273L
  EXER 2169 or BIOL 2274
  EXER 2169L or BIOL 2274L
  CHEM 1251 or CHEM 1203
  CHEM 1251L or CHEM 1203L
  STAT 1220 or STAT 1221 or STAT 1222
- All Pre-Exercise Science majors are subject to a Conduct Check facilitated by the Dean of Students Office. The result may impact acceptance into the Exercise Science program.

**Currently Enrolled Students**
- *Declaration of Major:* Students are initially classified as Pre-Exercise Science (PEXE) majors until the requirements above are met in order to apply to the upper-division Exercise Science major.

**Currently Enrolled Students from Another Major**
- Students who wish to declare the Pre-Exercise Science major will register for and attend a Change of Major Orientation through the CHHS Advising Center.

## Degree Requirements
**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Foundation Courses (21 credit hours)**
EXER 2101 - Foundations of Physical Conditioning (3)
EXER 2150 - Introduction to Exercise Science (3)
EXER 2168 - Human Anatomy and Physiology for the Health Professions (3)
EXER 2168L - Human Anatomy and Physiology Laboratory for the Health Professions (1)
EXER 2169 - Human Anatomy and Physiology for the Health Professions II (3)
EXER 2169L - Human Anatomy and Physiology for the Health Professions II Laboratory (1)
CHEM 1203 - Introduction to General, Organic, and Biochemistry I (3)
or CHEM 1251 - General Chemistry I (3)
CHEM 1203L - Introduction to General, Organic, and Biochemistry I

Laboratory (1)
or CHEM 1251L - General Chemistry I Laboratory (1)
STAT 1220 - Elements of Statistics I (BUSN) (3)
or STAT 1221 - Elements of Statistics I (3)
or STAT 1222 - Introduction to Statistics (3)

**Major Courses (27 credit hours)**
EXER 3198 - Applied Kinesiology (3)
EXER 3260 - Nutrition for the Physically Active (3)
EXER 3280 - Exercise Physiology: Foundation and Theory (3)
EXER 3285 - Principles of Strength and Conditioning (3)
EXER 3286 - Exercise Testing: Foundation and Theory (3)
EXER 3287 - Exercise Testing: Principles and Applications (3)
EXER 4121 - Pharmacology for the Physically Active (3)
EXER 4286 - Exercise Prescription (3)
EXER 4293 - Biomechanics (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives). Suggested courses for majors include:

EXER 2290 - Emergency Medical Response (3)
EXER 3100 - Organization and Administration of Exercise Science (3)
EXER 3490 - Exercise Science Internship (3) *(may be repeated for credit one time)*
EXER 3660 - Practitioner Seminar (1)
EXER 4132 - Lifetime Weight Management and Behavior Change (3)

## Degree Total = 120 Credit Hours

## Progression Requirements
All of the required courses for the Pre-Exercise Science major, Exercise Science major, and Health and Fitness concentration must be completed with a grade of C or above. Students may repeat each required Pre-Exercise Science or Exercise Science course once, for a total of 2 attempts. Withdrawals are not counted towards the repeat limits, but students are limited to 16 credit hours of self-withdrawals during their academic career. If a student does not earn a grade of C or higher within the two allowed attempts, he/she/they will be dismissed from the major.

**Admission to Upper Division**
All pre-Exercise Science majors must complete the following courses with a grade of C or higher to be considered for admission to the Exercise Science degree program:

- EXER 2150 Introduction to Exercise Science
- EXER 2168/EXER 2168L Anatomy and Physiology I and lab (or BIOL 2273 and BIOL 2273L)
- EXER 2169/EXER 2169L Anatomy and Physiology II and lab (or BIOL 2274 and BIOL 2274L)
- CHEM 1251/CHEM 1251L General Chemistry and lab (or CHEM 1203 and CHEM 1203L)
- STAT 1220 Statistics (or STAT 1221 or 1222)

Applicants must submit the online application.

Once admitted to the upper division, students can select the "Pre-Professional" Concentration.

## Honors Program
For details about the Honors Program in the Department of Applied Physiology, Health, and Clinical Sciences, see the Honors Programs section below.

## Pre-Health Courses (3-18 credit hours)
Students can choose between 3 and 18 credit hours of pre-health courses to satisfy professional program pre-requisites.
BIOL 1110 - Principles of Biology I (3)
BIOL 2120 - General Biology I (3)
BIOL 2120L - General Biology I Laboratory (1)
BIOL 2130 - General Biology II (3)
BIOL 2130L - General Biology II Laboratory (1)
BIOL 2259 - Fundamentals of Microbiology (3)
BIOL 3111 - Cell Biology (3)
BIOL 3166 - Genetics (3)
CHEM 1252 - General Chemistry II (3)
CHEM 1252L - General Chemistry II Laboratory (1)
CHEM 2131 - Organic Chemistry I (3)
CHEM 2132 - Organic Chemistry II (3)
CHEM 3165 - Survey of Biochemistry (3)
CHEM 4165 - Principles of Biochemistry I (3)
EXER 2299 - Medical Terminology (3)
EXER 3490 - Exercise Science Internship (3)
EXER 3660 - Practitioner Seminar (1)
PHYS 1101 - Introductory Physics I (3)
PHYS 1101L - Introductory Physics I Laboratory (1)
PHYS 1102 - Introductory Physics II (3)
PHYS 1102L - Introductory Physics II Laboratory (1)

# Bachelor of Science in Exercise Science *with Concentration in Strength and Conditioning*
The CASCE accredited Strength and Conditioning Concentration is accredited by the *Council on Accreditation of Strength and Conditioning Education* and prepares students with the knowledge and skills essential for the Strength and Conditioning Specialist. Students apply industry standard, evidence-based guidelines to the administration of fitness assessments, the development and implementation of strength and conditioning programs, and the management and oversight of such programs. The culminating experience of the concentration is a robust internship under the supervision of a Certified Strength and Conditioning Specialist. Students are encouraged to take the National Strength and Conditioning Association Certified Strength and Conditioning Specialist exam.

## Admission Requirements
**Freshmen and Transfers**
Students who meet the following criteria may submit a declaration form for the Strength and Conditioning Concentration:
- See University Admission Requirements
- Exercise Science major
- Minimum GPA: 2.0

**Currently Enrolled Students from Another Major**

- Students who wish to declare the Pre-Exercise Science major will register for and attend a Change of Major Orientation through the CHHS Advising Center. The declaration form is found on the Exercise Science website. Academic advising prior to declaration is strongly encouraged. Please contact the Exercise Science Program Director for more information.

## Degree Requirements

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Foundation Courses (21 credit hours)**

EXER 2101 - Foundations of Physical Conditioning (3)
EXER 2150 - Introduction to Exercise Science (3)
EXER 2168 - Human Anatomy and Physiology for the Health Professions (3)
or BIOL 2273 - Human Anatomy and Physiology (3)
EXER 2168L - Human Anatomy and Physiology Laboratory for the Health Professions (1)
or BIOL 2273L - Human Anatomy and Physiology Laboratory (1)
EXER 2169 - Human Anatomy and Physiology for the Health Professions II (3)
or BIOL 2274 - Human Anatomy and Physiology II (3)
EXER 2169L - Human Anatomy and Physiology for the Health Professions II Laboratory (1)
or BIOL 2274L - Human Anatomy and Physiology II Laboratory (1)
CHEM 1251 - General Chemistry I (3)
or CHEM 1203 - Introduction to General, Organic, and Biochemistry I (3)
CHEM 1251L - General Chemistry I Laboratory (1)
or CHEM 1203L - Introduction to General, Organic, and Biochemistry I Laboratory (1)

*Plus one of the following:*

STAT 1220 - Elements of Statistics I (BUSN) (3)
or STAT 1221 - Elements of Statistics I (3)
or STAT 1222 - Introduction to Statistics (3)

**Major Courses (27 credit hours)**

EXER 3198 - Applied Kinesiology (3)
EXER 3260 - Nutrition for the Physically Active (3)
EXER 3280 - Exercise Physiology: Foundation and Theory (3)
EXER 3285 - Principles of Strength and Conditioning (3)
EXER 3286 - Exercise Testing: Foundation and Theory (3)
EXER 3287 - Exercise Testing: Principles and Applications (3)
EXER 4121 - Pharmacology for the Physically Active (3)
EXER 4286 - Exercise Prescription (3)
EXER 4293 - Biomechanics (3)

**Concentration Courses (22 credit hours)**

***Required Courses (16 credit hours)***

EXER 2294 - Care and Prevention of Athletic Injuries (3)
EXER 3190 - Emergency Medical Response (3)
EXER 3660 - Practitioner Seminar (1)
EXER 4100 - Organization and Administration of Strength and Conditioning (3)
EXER 4285 - Advanced Strength and Conditioning Theory and Techniques (3)
EXER 4333 - Sport and Exercise Psychology (3)
or

***Internship (6 credit hours)***

Students complete EXER 4440 Strength and Conditioning Internship I and EXER 4442 Strength and Conditioning Internship II during the last semester in the major.

EXER 4440 - Strength and Conditioning Internship (3)
and EXER 4442 - Strength and Conditioning Internship II (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

**Other Requirements (3 credit hours)**

Students are encouraged to sit for the National Strength and Conditioning Association's Certified Strength and Conditioning Specialist Exam.

## Degree Total = 120 Credit Hours

## Progression Requirements

All of the required courses for the Pre-Exercise Science major, Exercise Science major, and Health and Fitness concentration must be completed with a grade of C or above. Students may repeat each required Pre-Exercise Science or Exercise Science course once, for a total of 2 attempts. Withdrawals are not counted towards the repeat limits, but students are limited to 16 credit hours of self-withdrawals during their academic career. If a student does not earn a grade of C or higher within the two allowed attempts, he/she/they will be dismissed from the major. If a student feels he/she/they have grounds to appeal this policy, an appeal may be submitted for review by the Program Director and Exercise Science Committee.

**Admission to Upper Division**

All pre-Exercise Science majors must complete the following courses with a grade of C or higher to be considered for admission to the Exercise Science degree program:

- EXER 2150 Introduction to Exercise Science
- EXER 2168/EXER 2168L Anatomy and Physiology I and lab (or BIOL 2273 and BIOL 2273L)
- EXER 2169/EXER 2169L Anatomy and Physiology II and lab (or BIOL 2274 and BIOL 2274L)
- CHEM 1251/CHEM 1251L General Chemistry and lab (or CHEM 1203 and CHEM 1203L)
- STAT 1220 Statistics (or STAT 1221 or 1222)

Applicants must have a minimum cumulative GPA of 2.0 and submit the online application.

Once admitted to the upper division, students can declare the "Strength & Conditioning" Concentration.

### Special Policies or Requirements

Exercise Science majors must earn grades of C or higher in all required courses. Students can attempt each required course once. Withdrawals do not count towards total attempts at a course.

### Honors Program

For details about the Honors Program in the Department of Applied Physiology, Health, and Clinical Sciences, see the Honors Programs section below.

## Bachelor of Science in Respiratory Therapy

The Respiratory Therapy major prepares graduates of associate-level programs in respiratory therapy who have achieved the RRT credential with the expanded knowledge, critical thinking ability, and communication skills necessary to become leaders in respiratory education, management, research, and advanced clinical practice.

The emphasis of the curriculum is to enhance and advance the student's professional career in respiratory therapy with additional education in professional writing, teaching strategies, healthcare administration, evidence-based research, critical appraisal skills, and advanced critical care management. This degree program is offered completely online through the Office of Distance Education and the Department of Applied Physiology, Health, and Clinical Sciences. Students seeking admission into this program will already be licensed respiratory therapists who have the RRT credential from the National Board of Respiratory Care. The program culminates in a capstone experience that is developed around the students' specific professional interest area. Students learn the detailed research process and have the opportunity to present their finalized clinical, educational, administrative, or population-based project prior to graduation. The accomplished faculty are committed to preparing students to become that "next generation" respiratory therapist.

### Admission Requirements

#### Transfers

- See University Admission Requirements
- *Minimum GPA:* 2.0 from an Associate Degree program that is a CoARC-accredited respiratory therapy program from a college or university accredited by an accepted accrediting body
- *Pre-Major/Prerequisite Courses:* A minimum grade of a C in all coursework taken by the end of the semester prior to the semester for which application is made
- Current unencumbered state license as a Registered Respiratory Therapist, up-to-date Basic Life Support certification, transcript completion of an Associate Degree program in respiratory therapy
- *Declaration of Major:* Students will be accepted directly into the program as a BSRT major
- *Transferable Credit Hours*: 64

Students must first apply for admission to the University, and then make a second application to the UNC Charlotte Distance Education Office. The final program admission decision is made by the BSRT program faculty. Applicants are competitively reviewed for admission based on their cumulative GPA in all college transferable coursework, as well as their personal statement and letters of recommendation. Satisfactorily completing the minimum requirements does not guarantee admission into the program. After evaluating the credentials of all applicants meeting the minimum academic requirements, the selection committee offers admission to students whose credentials demonstrate the highest level of academic achievement. Students are admitted in one cohort in the Fall semester, in which applications are accepted from November 15 to March 15. Students will be accepted directly into the program as a BSRT major. Applications are available from the Distance Education Office. Admission decisions are communicated in writing from the Department of Applied Physiology, Health, and Clinical Sciences. Applicants who are denied may reapply.

### Degree Requirements

#### Transfer Credit (64 credit hours)

#### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information. Students with an acceptable AAS degree are granted a general education waiver.

#### Credit by Exam (26 credit hours)

Students receive 26 credits by exam for having passed the RRT exam after completion of RESP 3101.

#### Major Courses (24 credit hours)

RESP 3101 - Leadership Practices and Professional Writing for Respiratory Therapists (3) (W)
RESP 3102 - Extended Services in Respiratory Therapy (3)
RESP 3205 - Cardiopulmonary Pharmacotherapy (3)
RESP 3206 - Critical Care Monitoring and Mechanical Ventilation (3)
RESP 4103 - Evidence-Based Practice in Respiratory Care (3)
RESP 4107 - Teaching Fundamentals and Clinical Education (3)
RESP 4108 - Healthcare Outcomes and Quality Assessment: A Management Perspective (3) (O)
RESP 4208 - Critical Care Pathophysiological Concepts for Respiratory Therapy (3)

#### Restricted Elective Courses (6 credit hours)

*Students are required to choose two of the following RESP electives.*
RESP 3108 - Introduction to Research Methods in Respiratory Therapy (3)
RESP 4205 - Information Technology in Respiratory Care (3)
RESP 4206 - Health Communications: Ethical and Legal Implications (3)
RESP 4410 - Respiratory Therapy Practicum (3)

#### Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

### Progression Requirements
For all required courses for the Respiratory Therapy major, students must receive a grade of C or above to be considered successful.

### Honors Program
For details about the Honors Program in the Department of Applied Physiology, Health, and Clinical Sciences, see the Honors Programs section below.

## Honors Programs
Honors Programs are available for all majors within the Department of Applied Physiology, Health, and Clinical Sciences. The honors notation will appear on a student's official transcript.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
Students are eligible to participate in the Honors Program in their Sophomore or Junior year of study. Consideration for admission to the Honors Program may be initiated by the student or by any faculty member in the Department of Applied Physiology, Health, and Clinical Sciences.

- See University Admission Requirements
- Cumulative GPA of 3.5 recommended
- Submit a typed statement (maximum length of 500 words) explaining:
    - The student's academic/career goals in their respective major within the Department of Applied Physiology, Health, and Clinical Sciences
    - How the Department of Applied Physiology, Health, and Clinical Sciences' Honors Program is relevant to the student's academic and/or career interests

The Department of Applied Physiology, Health, and Clinical Sciences Honors Program Committee reviews the materials of all eligible student applicants on an ad hoc basis and recommends to the Department of Applied Physiology, Health, and Clinical Sciences Chair those individuals who should be admitted into the program.

Students may be removed from the Honors Program at any time upon their own request or upon recommendation of the Honors Program Committee in consultation with the Department of Applied Physiology, Health, and Clinical Sciences Chair. There is no penalty for discontinuing the Honors Program.

### Course Requirements
EXER 3900 - Undergraduate Research (1 to 3) *(Honors section)*
EXER 4115 - Undergraduate Research Methods in Applied Physiology, Health, and Clinical Sciences (3) *(Honors section)*
EXER 4700 - Honors Research I (3)

### Progression and Certification Requirements
To obtain Honors in their respective major in the Department of Applied Physiology, Health, and Clinical Sciences, students must:

- Receive grades of A in EXER 3900, EXER 4115, and EXER 4700
- Achieve a minimum GPA of 3.2 for all coursework at UNC Charlotte
- Achieve a minimum GPA of 3.5 in Department of Applied Physiology, Health, and Clinical Sciences major
- Complete at least 6 credit hours of honors coursework (not including the thesis)
- Write an honors thesis in EXER 4700 under the supervision of a single faculty member, and publicly present the results of that research to the department faculty
- Explain, in writing, how their course of study in the department developed a focused inquiry into the student of a Kinesiology major (Exercise Science, or Respiratory Therapy) to the satisfaction of the Department of Applied Physiology, Health, and Clinical Sciences Honors Committee
- Complete the Application to Candidacy process for graduating with honors, as directed by the Honors College

## Minor in Outdoor Adventure Leadership
The Minor in Outdoor Adventure Leadership is designed to allow students to acquire the knowledge, skills, and abilities to work (and recreate) in a variety of adventure activities, while fulfilling the requirements for one of the approved degree programs at the University. The courses that satisfy the minor are primarily housed within the Department of Applied Physiology, Health, and Clinical Sciences and represent different aspects of the outdoor adventure field.

The Minor in Outdoor Adventure Leadership consists of a minimum of 18 credit hours of approved coursework, plus an "Intensive Experience" class (chosen from 3 options), an "Outdoor Leadership-based" class (chosen from 2 options), and approved electives.

The final practicum course involves playing an active leadership role

either with Venture or another (approved) outdoor program. Options could include: planning and leading a wilderness trip for Venture, leading groups at the Venture Challenge Courses, serving as a teaching assistant for one of the Outdoor Adventure Leadership courses, working at another local program (e.g., the U.S. National Whitewater Center) delivering adventure programming, summer work in the adventure field, etc. A journal and regular check-in with the course instructor is included in this capstone experience.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

See University Admission Requirements

Students matriculated at UNC Charlotte and planning to declare Outdoor Adventure Education as their minor must have an overall GPA of at least 2.0. To apply, students must submit, with a Change of Minor Form, a typed letter of application to the Venture Director, indicating why they are interested in the Minor, how they hope to use the experiences and skills gained through the Minor in their future, and what prior relevant experience they have that they believe will help them be successful in this Minor. The Venture Director recommends to the Department of Applied Physiology, Health, and Clinical Sciences Chair those individuals who should be admitted into the program.

## Minor Requirements

The Minor in Outdoor Adventure Leadership requires the completion of 18 credit hours of approved courses as follows:

**Introductory Course (2 credit hours)**

KNES 1231 - Introduction to Adventure Education and Leadership (2)

**Intensive Experience Courses (2 credit hours minimum)**

*Select at least one of the following:*

KNES 2230 - Wilderness Experience (2)
KNES 2233 - Rock Climbing (2)
KNES 2236 - Challenge Course Activities (2)

**Outdoor Leadership-Based Courses (3 credit hours minimum)**

*Select at least one of the following:*

KNES 3230 - Wilderness Trip Leading (3)
KNES 3235 - Challenge Course Facilitation (3)

**Other Required Courses (2-4 credit hours)**

KNES 3236 - Theory and Foundations of Adventure Education (3)
KNES 4431 - Outdoor Adventure Leadership Practicum (2 to 4)

**Elective Courses (4-6 credit hours minimum)**

Approved elective options include any of the above classes not already taken (e.g., a student may take KNES 3230 and KNES 3235. One of these classes would count towards the 5 elective credit hours. The same applies to KNES 2230, KNES 2233, and KNES 2236.).

Additional approved courses include the following:
EXER 3190 - Emergency Medical Response (3)
KNES 2238 - Whitewater Kayaking (2)
KNES 3231 - River Management (2)
KNES 3233 - Rock Climbing Management (3)
BIOL 3144 - Ecology (3)*
BIOL 3229 - Field Botany (3)*
COMM 2105 - Small Group Communication (3)**
COMM 2107 - Interpersonal Communication (3)**
COMM 3135 - Leadership, Communication, and Group Dynamics (3)
COMM 3136 - Leadership, Service, and Ethics (3)
EDUC 2100 - Introduction to Education and Diversity in Schools (3)
or EDUC 1100 - Foundations of Education and Diversity in Schools - Prospect Curriculum (4)
ESCI 2010 - National Parks: Science Behind the Scenery (3)
ESCI 3150 - Natural Environments of North America (3)*
MDSK 3160 - Learning and Development: Birth through Adolescence (3)*
PSYC 3130 - Social Psychology (3)*
PSYC 3131- Psychology of Learning (3)*
SOCY 4263 - Sociology of Small Groups (3) *
SOWK 2182 - Human Behavior in the Social Environment I (3)*
SOWK 2183 - Human Behavior in the Social Environment II (3)*

## Special Policies or Requirements

**These courses have prerequisites.*
***These courses are currently restricted to certain majors.*

Students may petition for other classes to count toward elective credits. Furthermore, credit for Independent Study in First Aid could be given for completing a certification in Wilderness First Responder (3 credit hours), or Wilderness Advanced First Aid (2 credit hours) or Wilderness First Aid (1 credit hour). This needs to be arranged through an approved provider. Additionally, credit for Independent Study in Outdoor Adventure could be given by taking one of the courses offered by Outward Bound, National Outdoor Leadership School, or similar program.

## Minor Total = 18 Credit Hours

## Progression Requirements

Students must attain an overall GPA of 3.0 in all coursework within the minor.

# Undergraduate Certificate in Clinical Research Management

The Undergraduate Certificate in Clinical Research Management prepares students for careers as Clinical Research Administrators or Coordinators who organize and manage clinical research trials under the supervision of a Principal Investigator.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

The Undergraduate Certificate in Clinical Research Management program is open to currently enrolled UNC Charlotte undergraduate students.

See University Admission Requirements.

## Certificate Requirements

**Required Courses (15 credit hours)**

STAT 1221 - Elements of Statistics I (3)
or STAT 1222 - Introduction to Statistics (3)

STAT 1322 - Introduction to Statistics II (3)
EXER 2299 - Medical Terminology (3)
EXER 4115 - Undergraduate Research Methods in Applied Physiology, Health, and Clinical Sciences (3)
EXER 4240 - Clinical Research Management (3)

### Optional Internship

Students are encouraged to complete a Clinical Research Management internship where they may practice and apply new knowledge and skills. The one (1) credit EXER 3660 Practitioner Seminar course helps students prepare for the internship. EXER 3660 is the pre-requisite for the three (3) credit internship EXER 3490.

EXER 3660 - Practitioner Seminar (1)
EXER 3490 - Exercise Science Internship (3)

### Progression Requirements

A grade of C or higher is required for each of the Required Courses.

### Certificate Total = 15 Credit Hours

## Undergraduate Certificate in Nutrition

The Undergraduate Certificate in Nutrition is designed for students who wish to develop practical knowledge of nutrition and its role in health, disease, and human performance. It may be earned in conjunction with the major in Exercise Science of as a stand-alone certificate. The certificate prepares students for jobs in health, fitness, wellness, and sports performance. This certificate does not prepare students for jobs requiring licensure as a Registered Dietician.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**
The Undergraduate Certificate in Nutrition program is open to currently enrolled UNC Charlotte undergraduate students.

See University Admission Requirements.

### Certificate Requirements

**Required Courses (12 credit hours)**
EXER 2299 - Medical Terminology (3)
EXER 3260 - Nutrition for the Physically Active (3)
EXER 4130 - Applied Nutrition (3)
EXER 4132 - Lifetime Weight Management and Behavior Change (3)

**Elective Courses (3-4 Credit Hours)**
Choose at least one (1) from the following electives. Note: KNES 3660 Practitioner Seminar is the pre-requisite for KNES 3490 Internship.

INTL 3125 - Food and Globalization (3)
**or**
EXER 3660 - Practitioner Seminar (1) **and**
EXER 3490 - Exercise Science Internship (3)

### Progression Requirements

A grade of C or higher is required for each of the Required Courses. Each required course may be attempted twice.

### Certificate Total = 15 Credit Hours

## Undergraduate Certificate in Sports Analytics

The Undergraduate Certificate in Sports Analytics is open to students who are interested in applying data analysis and collection strategies within the field of sports. The purpose of the certificate is to allow the students to gain knowledge and pursue a path in the sports analytics field along with their existing major.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

To be eligible for admission to the certificate program, students must have completed the following:

- Statistics Course - STAT 1220, STAT 1221, or STAT 1222 with grade of C or above
- Basic Programming Course - INFO 2130, INFO 3221, or ITSC 1110 with grade of C or above

Other courses may be accepted upon review. Students from all majors on campus are welcome to apply for admission.

### Certificate Requirements

**Analytics Courses (10 credit hours)**
SPOA 1110 - Sports Analytics (3)
or SPOA 3300 - Sports Analytics Internship Preparation (1)
DTSC 3400 - Data Science Practicum (1 to 3)
or EXER 3900 - Undergraduate Research (1 to 3) *(must be taken for 3 credit hours)*
or SPOA 3400 - Sports Analytics Practicum (1 to 3)
or SPOA 3800 - Independent Study in Sports Analytics (1 to 3) *(must be taken for 3 credits)*
EXER 4115 - Undergraduate Research Methods in Applied Physiology, Health, and Clinical Sciences (3)

**Elective Course (3 credit hours)**
*Select one of the following:*
SPOA 2110 - Sport Business Analytics (3)
EXER 2333 - Baseball Through History and Playing I (1800s-1947) (3)
EXER 2334 - Baseball Through History and Playing II (1947-Present) (3)
SPOA 2130 - Introduction to Baseball Statistics (3)
SPOA 4210 - Advanced Baseball Analytics (3)
SPOA 4001 - Advanced Topics in American Football Analytics (3)

### Certificate Total = 13 Credit Hours

### Progression Requirements

All courses in the certificate program require a grade of C or above.

# Early Entry: Master of Science in Athletic Training

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

## Admission Requirements

**Current UNC Charlotte Undergraduate**

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Minimum 3.5 GPA in Exercise Science courses
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School
- Grades of C or above in the following prerequisite courses:
  - Human Anatomy with laboratory
  - Human Physiology with laboratory
  - Chemistry with laboratory
  - Physics with laboratory*
  - Statistics
  - Exercise Physiology
  - Psychology
  - Nutrition
  - Biomechanics
  - Medical Terminology*
  - Introduction to Biology*
- 50 hours of observational experience with a Certified Athletic Trainer

**These courses are currently not required for the General Education program or for the B.S. in Exercise Science program.*

## Progression Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree.

## Special Policies or Requirements

Up to 10 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 10 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees). Those courses are:

| Undergraduate Course | Graduate Substitute |
|---|---|
| EXER 3099 | ATRN 6100 |
| EXER 3800 | ATRN 6101 |
| EXER 2294 | ATRN 6102 |
| EXER 3800 | ATRN 6103 |

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# Early Entry: Master of Science in Kinesiology

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree. The Early Entry Program leads to completion of all requirements for the B.S. and M.S. degrees in only five academic years and one or two summers. Students should consult with the M.S. in Kinesiology Graduate Program Director about their eligibility for this program and to discuss requirements for selection of a research advisor during their Junior year.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.25 overall undergraduate GPA
- Minimum 3.25 GPA in the major
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

*Note: GRE scores are not required.*

## Progression Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree.

## Special Policies or Requirements

Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees). Students may leave the program after four years with the B.S. degree, or they may complete an additional academic year and summer of full-time study and research to earn both the B.S. and M.S. degrees in Kinesiology.

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at

gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

## Early Entry: Master of Science in Respiratory Care

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

*Note: GRE scores are not required.*

### Progression Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree.

### Special Policies or Requirements

Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees). The graduate courses are:

RESP 5101 - Health Outcomes and Quality Assessment (3)
RESP 6101 - Respiratory Care Leadership (3)
RESP 6105 - Pulmonary Function Testing and Cardiopulmonary Rehabilitation (3)
RESP 6115 - Respiratory Care Research Methods (3)

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# School of Nursing

nursing.charlotte.edu

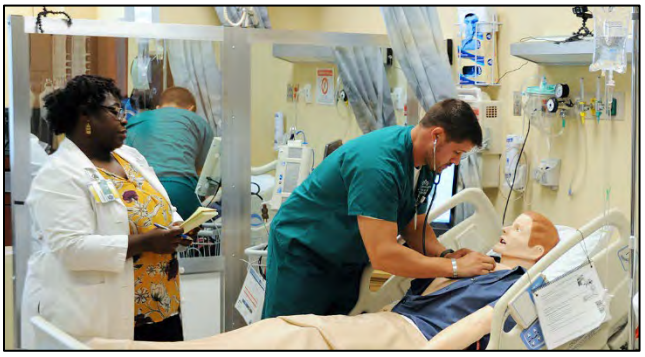
## Undergraduate Programs

- B.S. in Nursing (BSN)
  - Upper Division Pre-Licensure Option
  - Advanced Transfer/Accelerated Option
  - Honors Program
- B.S. in Nursing, RN-to-BSN
- Early Entry: M.S. in Nursing (MSN)

The UNC Charlotte School of Nursing prepares nursing professionals to serve as leaders, clinicians, and scholars through innovative educational programs designed to meet the healthcare needs of an evolving and diverse society.

The School of Nursing offers both undergraduate and graduate programs. The undergraduate program provides two pathways to earning the Bachelor of Science in Nursing (BSN) degree – (1) the online BSN completion program for Registered Nurses and (2) Pre-licensure nursing major options that include a traditional upper-division pre-licensure program option and an Advanced transfer/Accelerated program option. The BSN degree is offered at both the Upper-Division Pre-Licensure level, Advanced transfer/Accelerated level, and the RN-to-BSN completion level. Graduate programs include the Master of Science in Nursing (MSN) in various specialty concentrations, the Doctor of Nursing Practice (DNP) degree, post-graduate APRN certificate programs, and certificates in Nursing Informatics, Community Public/Health Nursing, and Nursing Education.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.



## Bachelor of Science in Nursing

### Admission Requirements

**Freshmen**

- See University Admission Requirements

- Freshmen admission is competitive. Students who are admissible will be admitted as Pre-Nursing majors.
- *Minimum Pre-Major GPA*: n/a
- *Minimum Upper Division* GPA: To be eligible for admission to the upper-division Pre-Licensure Nursing major, students must have a minimum prerequisite GPA of minimum of 3.3.
- *Pre-Major/Prerequisite Courses:* Completion of prerequisite courses with a minimum grade of a C. Completion of prerequisite science and NURS courses with a minimum grade of a B. Completion of at least three (3) of the prerequisite science courses and their respective labs prior to applying to the Nursing Major options (Upper-Division Pre-Licensure or Accelerated).

  To be considered for admission to the upper-division major, students must meet the following criteria:
  - Grade of C (2.0) or higher in:
    - WRDS 1103 - Writing and Inquiry in Academic Contexts I and II (3)
      or WRDS 1104 - Writing and Inquiry in Academic Contexts I and II with Studio (4)
    - MATH 1100 - College Algebra and Probability (3)
      or MATH 1101 - College Algebra with Workshop (4)
    - STAT 1222 (or STAT 1220 or STAT 1221) (Introduction to Statistics)
    - PSYC 1101 (General Psychology)
  - Grade of B (3.0) or higher in:
    - CHEM 1203 and CHEM 1203L or CHEM 1251 or CHEM 1251L
    - CHEM 1204 and CHEM 1204L or CHEM 1252 and CHEM 1252L
    - BIOL 2273 and BIOL 2273L or EXER 2168 and EXER 2168L
    - BIOL 2274 and BIOL 2274L or EXER 2169 and EXER 2169L
    - BIOL 2259 and BIOL 2259L
    - NURS 2100 (Nutrition courses taken outside of UNC Charlotte will be reviewed on an individual basis)
    - NURS 2200 (An equivalent growth and development and/or developmental psychology course may be substituted)
  - For the prerequisite science courses and respective labs and for NURS 2100 and NURS 2200, all of which require a grade of B or above, Pre-Nursing students can only repeat each course once to earn a B or above prior to applying to Upper Division. If a student does not earn a B or above in those courses, then they will be ineligible for admission to the Upper-Division Nursing major and will need to change their major. Students applying for Spring admission must complete required prerequisite courses by the end of the Fall semester preceding their admission. Students applying for Fall admission must complete required prerequisite courses by the end of the Spring semester preceding their admission.
  - Students admitted to the Nursing Major options (Upper-Division Pre-Licensure or Accelerated) must be certified as a Nurse Aide I (CNA I) and listed in the North Carolina Nurse Aide Registry.

**Transfers**
- See University Admission Requirements
- *Minimum Pre-Major GPA:* 3.0.
- To be eligible for admission to the upper-division Pre-Licensure Nursing major, students must have a minimum prerequisite GPA of minimum of 3.3.
- *Pre-Major/Prerequisite Courses:* Same as Freshmen listed above
- *Other:* Same as Freshmen listed above
- *Transferable Credit Hours:* 24
- *Declaration of Major:* Transfer students who have not completed all prerequisites may be admitted to UNC Charlotte as Pre-Nursing. In order to declare Pre-Nursing, transfer students admitted to the University must have an overall GPA of 3.0 based on all university/college coursework. Transfer students who do not meet the criteria or have never applied for admission as Pre-Nursing may request a change of major to Pre-Nursing after completion of the first full semester at UNC Charlotte (at least 15 credit hours; Summer not included) with an overall GPA of 3.0 or above. Application to the Nursing Major options (Upper-Division Pre-Licensure or Accelerated) is online. Information about progression for pre-nursing majors and the online application process and deadlines is available on the School of Nursing website.
- Students must have earned at least 24 transferable credits from a prior institution with at least a 3.0 cumulative GPA as calculated by the Office of Undergraduate Admissions. There are no specific courses required for admission. However, students who complete any nursing prerequisite coursework prior to transfer must earn a grade of B or higher in selected courses. These courses include: Introduction to General, Organic and Biochemistry I & II or General Chemistry I & II, Human Anatomy and Physiology I & II, Microbiology, Nutrition and Human Growth and Development. If the student has not earned a B but is eligible to repeat the course, the student may be admitted to pre-nursing in order to repeat the course to earn the required grade. Students who are admissible will be admitted as Pre-Nursing majors.

**Advanced Transfer/Accelerated Option**
- See University Admission Requirements
- *Minimum GPA:* 3.0
- *Pre-Major/Prerequisite Courses:* Same as Freshmen listed above.
- *Other:* Same as Freshmen listed above. In addition, to be considered for the Accelerated option, students must have earned a previous bachelor's degree, associate in arts, or an associate in science degree. Associate in Applied Science degree does not apply.
- *Declaration of Major:* Transfer students who have not completed all prerequisites may be admitted to UNC Charlotte as Pre-Nursing. In order to declare Pre-Nursing, transfer students admitted to the University must have an overall GPA of 3.0 based on all university/college coursework. Transfer students who do not meet the criteria or have never applied for admission as Pre-Nursing may request a change of major to Pre-Nursing after completion of the first full semester at UNC Charlotte (at least 15 credit hours; Summer not included) with an overall GPA of 3.0 or above. Application to the Nursing Major options (Upper-Division Pre-Licensure or Accelerated) is online. Information about progression for pre-nursing majors, program options, and the online application process and deadlines is available on the School of Nursing website.
- Students must have earned at least 24 transferable credits from a prior institution with at least a 3.0 cumulative GPA as calculated by the Office of Undergraduate Admissions. There are no specific courses required for admission. However, students who complete any nursing prerequisite coursework prior to transfer must earn a

grade of B or higher in selected courses. These courses include: Introduction to General, Organic and Biochemistry I & II or General Chemistry I & II, Human Anatomy and Physiology I & II, Microbiology, Nutrition and Human Growth and Development. If the student has not earned a B but is eligible to repeat the course, the student may be admitted to pre-nursing in order to repeat the course to earn the required grade. Students who are admissible will be admitted as Pre-Nursing majors.

**Currently Enrolled Students**

- *Declaration of Major*. Freshmen seeking admission to the Upper Division Pre-Licensure Nursing Major may be admitted as Pre-Nursing. All students begin as Pre-Nursing majors and apply to Upper-Division once eligible. Freshmen who do not meet the criteria or have never applied for admission to Pre-Nursing may request a change of major to Pre-Nursing after completion of 30 credit hours at UNC Charlotte with an overall GPA of 3.0 or above. An advising session is required prior to declaration. Application to the Nursing Major options (Upper-Division Pre-Licensure or Accelerated) is online. Information about progression for Pre-Nursing majors and the online application process and deadlines is available on the School of Nursing website.

## Degree Requirements

The Bachelor of Science in Nursing degree (BSN) requires 120 credit hours for the Upper-Division Pre-Licensure and Accelerated Nursing curriculum options and the RN-to-BSN completion curriculum. Students must earn the last 25% of baccalaureate degree requirements at UNC Charlotte.

**General Education Courses (31-32 credit hours)**

Some required Prerequisite Courses (listed above) and Major Courses (listed below) meet General Education requirements. Also required are critical thinking, local theme, and global theme courses. For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Prerequisite Course Requirements (21 credit hours)**

See above list under Admission Requirements.

**Pre-Licensure Upper-Division & ABSN Nursing Major Courses (61 credit hours)**

NURS 3102 - Introduction to Nursing Science (3)
NURS 3105 - Concepts of Professional Nursing (3)
NURS 3107 - Pathophysiology: Clinical Concepts of Illness and Disease (3)
NURS 3108 - Health Assessment and Application (3)
NURS 3205 - Pharmacology in Health and Illness (3)
NURS 3230 - Illness and Disease Management (3)
NURS 3250 - Nursing Care of the Childbearing Family (2)
NURS 3260 - Nursing Care of Children (2)
NURS 3425 - Practicum in Concepts of Professional Nursing (2)
NURS 3430 - Practicum in Illness and Disease Management (3)
NURS 3440 - Practicum in Nursing Care of Children and the Childbearing Family (3)
NURS 4100 - Nursing Care of the Aging Adult (3)
NURS 4120 - Psychiatric Mental Health Nursing (3)
NURS 4130 - Complex Illness and Disease Management (3)
NURS 4203 - Leadership and Informatics for Nursing Practice (3)
NURS 4240 - Population Focused Nursing (3)
NURS 4420 - Practicum in Psychiatric Mental Health Nursing (3)
NURS 4430 - Practicum in Complex Illness and Disease Management (3)
NURS 4440 - Practicum in Population Focused Nursing (2)
NURS 4450 - Design and Coordination of Care (3)
NURS 4600 - Professional Nursing: Trends, Issues, and Licensure (3)
NURS 4900 - Research in Nursing Practice (2)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation (6-7 credit hours)**

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

**Licensure Exam Review Course**

Students must complete a nursing licensure exam (NCLEX) review course prior to graduation.

## Degree Total = 120 credit hours

## Progression Requirements

All Nursing major courses must be completed with a grade of C or above. Students must also have a minimum GPA of 2.0 overall. Information about progression for Pre-Nursing majors and the online application process and deadlines is available on the School of Nursing website.

## Admission to Nursing Major Options

- All students begin as Pre-Nursing majors and apply to Nursing Major options (Upper Division and Accelerated) once eligible. Information about progression for pre-nursing majors and the online application process and deadlines is available on the School of Nursing website.
- The Upper Division option admits in the Fall and Spring semesters. The Accelerated option only admits in the Fall semester.
- Students applying for Spring admission must complete required prerequisite courses by the end of the Fall semester preceding their admission. Students applying for Fall admission must complete required prerequisite courses by the end of the Spring semester preceding their admission.
- Students admitted to the upper-division Pre-Licensure Nursing major must be certified as a Nurse Aide I (CNA I) and listed in the North Carolina Nurse Aide Registry.

## Special Policies or Requirements

Students must complete a nursing licensure exam (NCLEX) review course prior to graduation.

# Bachelor of Science in Nursing, RN-to-BSN

Registered nurses seeking admission to the RN-to-BSN curriculum who need to complete nursing prerequisites and/or General Education courses may apply for admission as a Pre-RN-to-BSN

student. Applicants must have a cumulative GPA of at least 2.0 on all college work attempted. Admission as a Pre-RN-to-BSN student does not automatically admit an applicant to the RN-to-BSN Program.

## Admission Requirements

### Freshmen

- First year students are not eligible for this major.

### Transfers

- See University Admission Requirements
- *Minimum GPA:* 2.0
- Completion of all General Education requirements
- *Pre-Major/Prerequisite Courses*: Applicants must complete nursing prerequisite courses with a minimum grade of C and General Education requirements by the end of the semester of application to the RN-to-BSN Completion program.
- *Transferable Credit Hours:* 24

## Degree Requirements

All General Education and nursing prerequisite courses must be completed by the end of the semester preceding the semester for which the application is made.

### General Education & Prerequisite Courses (31-32 credit hours)

Some required Prerequisite Courses meet General Education requirements. Also required are critical thinking, local theme, and global theme courses. For details on required courses, refer to the General Education Program and review transfer policies. Students in this major should plan on taking the following courses that meet general education, prerequisite, and major requirements.

WRDS 1103 - Writing and Inquiry in Academic Contexts I and II (3)
or WRDS 1104 - Writing and Inquiry in Academic Contexts I and II with Studio (4)
CHEM 1203 - Introduction to General, Organic, and Biochemistry I (3)
or CHEM 1251 - General Chemistry I (3)
CHEM 1203L - General, Organic, and Biochemistry I Lab (1)
or CHEM 1251L - General Chemistry I Lab (1)
MATH 1100 - College Algebra (3)
or MATH 1101 – College Algebra with Workshop (4)
PSYC 1101 - General Psychology (3)
STAT 1222 - Introduction to Statistics (3)
or STAT 1220 - Elements of Statistics I (BUSN) (3)
or STAT 1221 - Elements of Statistics I (3)

BIOL 2259 - Fundamentals of Microbiology (3)
BIOL 2259L - Fundamentals of Microbiology Lab (1)
BIOL 2273 - Human Anatomy and Physiology (3)
or EXER 2168 - Human Anatomy and Physiology for the Health Professions (3)
BIOL 2273L - Human Anatomy and Physiology Lab (1)
or EXER 2168L - Human Anatomy and Physiology for the Health Professions Lab (1)
BIOL 2274 - Human Anatomy and Physiology II (3)
or EXER 2169 - Human Anatomy and Physiology for the Health Professions II (3)
BIOL 2274L - Human Anatomy and Physiology II Lab (1)
or EXER 2169L - Human Anatomy and Physiology for the Health Professions II Lab (1)

*Note: Registered nurses seeking admission to the RN-to-BSN curriculum who need to complete nursing prerequisites and/or General Education courses may apply for admission as a Pre-RN-to-BSN student. Applicants must have a cumulative GPA of at least 2.0 on all college work attempted.* ***Admission as a Pre-RN-to-BSN student does not automatically admit an applicant to the RN-to-BSN Program.***

### Prerequisites for Participation in Clinical Experiences

#### *Immunization and Health Status*

All RN-to-BSN students must meet the University's immunization and health status requirements.

#### *Professional Liability Insurance*

All students must show proof of professional liability insurance for a Registered Nurse (RN).

#### *Universal Precautions*

All students must successfully complete a College computer-based exam on universal precautions each year of the professional program.

#### *Drug Testing and Criminal Background Checks*

To comply with clinical agency requirements, students in the nursing program may be required to undergo drug testing and have a criminal background check before being allowed to participate in clinical experiences. Students are responsible for the cost of drug testing and criminal background checks.

### Requirements for Progression in the Nursing Program

1) The Progression Policy for upper-division nursing students is included in the School of Nursing handbooks, which are available online at nursing.charlotte.edu under "Student Resources."
2) No course in the Nursing major can be taken as transient study. Transfer credit for nursing courses will be considered on an individual basis.

### Major Courses (28 credit hours)

NURN 3103 - Concepts of Professional Nursing Science (3)
NURN 3104 - Issues in Cultural Health (1)
NURN 3108 - Health Assessment for Nurses (3)
NURN 4100 - Aging and Health (3)
NURN 4201 - Information Technology: Application in Health Care (2)
NURN 4203 - Leadership in Nursing Practice (2)
NURN 4440 - Community Health Nursing (6)
NURN 4450 - Design and Coordination of Care for Nurses (6)
NURN 4900 - Research in Nursing Practice (2)

### Restricted Elective Course (3 credit hours)

Select one nursing elective course approved by the School of Nursing. The following course meets this requirement. To request another course to fulfill this requirement, contact the RN-to-BSN Coordinator for approval.

NURN 4192 - Enhancing Clinical Judgment (3)

### Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a

minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 credit hours

### Admission to Upper Division
Students seeking admission to the RN-to-BSN Completion program must have completed a nursing program and be licensed as a Registered Nurse with an unencumbered license.

### Special Policies or Requirements
Once admitted to the RN-to-BSN completion curriculum:

- Students must have prerequisite computer knowledge in using e-mail, word processing (create/save/open/retrieve), file management, editing, formatting, and using an internet browser (search and navigate). The RN-to-BSN nursing curriculum is currently offered through a totally web-based format (through Distance Education). The format is 10 courses and 31 credit hours in length.
- All students must meet the University's immunization and health status requirements.
- All students must show proof of professional liability insurance for a Registered Nurse (RN).

### North Carolina Articulation Agreement
The University of North Carolina RN-to-BSN programs and the NC Community college system have approved an articulation agreement for nursing students to complete their degrees. The agreement is available online at: northcarolina.edu/college-transferarticulation-agreements/uniform-articulation-agreement-rn-bsn.

## Honors Program in Nursing
The School of Nursing academic honors program emphasizes scholarship and leadership activities, such as identifying key issues impacting the nursing profession at the microsystem level.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

All students who meet the admission criteria for the School of Nursing (SON) Honors Program, and who are unconditionally admitted to the upper division major, are eligible to apply for admission to the School of Nursing Honors Program. Through a competitive process, interested students may apply to the SON Honors Program during their first semester of upper division. To be eligible for admission to the SON Honors Program, students must:

- Receive unconditional admission to the upper division major
- Have a nursing prerequisite minimum GPA of 3.7
- Submit an application that includes a typed statement (500 words or less) which addresses the following:
  - What are your academic/career goals specifically related to nursing?
  - How will participation in the School of Nursing Honors Program impact your academic/career goals?
  - What key issues do you think are impacting the nursing profession?
  - What role do nurses play in shaping the future of healthcare?

Applications are reviewed by the SON Honors Committee. Recommendations for admission are made to the SON Director and are based on academic achievement (GPA) and scoring of statement. Students with questions related to the admission decision to the SON Honors Program may direct them to the SON Honors Committee. Upon acceptance, the student must sign the Honors College Student Code form.

### Special Policies or Requirements
**Course Requirements**
NURS 3700 - Creating and Sustaining Change in Nursing (2) *(taken during Junior year)*
NURS 4203 - Leadership and Informatics for Nursing Practice (3) *(Honors section; taken during Senior year)*

### Progression Requirements
Students must complete the Application to Candidacy process with the Honors College in order to graduate with honors.

To remain in the School of Nursing Undergraduate Honors program, students must meet SON progression criteria, receive no grade less than a B in NURS courses with an allowance of one earned C, and maintain a preferred GPA of 3.7 or above.

All Honors students must adhere to SON and Honors College policies and procedures.

- Maintain a preferred GPA of 3.7 or above
- Grades of B or above for NURS courses. One grade of C will be allowed.
- Grade of A in NURS 4203 honors section test of change, research, quality improvement, or health promotion project

## Early Entry: Master of Science in Nursing
Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree. Students graduate with a BSN and then a MSN.

*Note: Early Entry is only available for Advanced Clinical Nursing and Systems/Populations Nursing. Nurse Anesthesia Across the Lifespan, Family Nurse Practitioner, and Adult-Gerontology Acute Care Nurse Practitioner do not admit Early Entry students.*

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Completion of all criteria for admission to the RN-to-BSN Program (all prerequisites taken)
- One year of professional nursing practice is recommended
- Minimum 3.2 overall undergraduate GPA

- Acceptable scores on the appropriate graduate standardized test (e.g., GRE)
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

## Progression Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Successful completion of the BSN with a GPA of 3.0 in the RN-to-BSN program
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree.

## Special Policies or Requirements

Up to 10 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 10 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

| Required Undergraduate Courses | Graduate Course Substitutions |
|---|---|
| NURN 3103 Concepts of Professional Nursing Science (3)* | NURS 6101 Theoretical Basis for Nursing Practice (3) |
| NURN 4201 Information Technology: Applications in Healthcare (2) | NURS 6115 Health Policy and Planning in the U.S. (3) |
| NURN 4900 Research in Nursing Practice (2) | NURS 6160 Research in Nursing and the Health Professions (3) |
| Nursing Elective | Additional Graduate Course |

Credit hours for NURN 3103 are awarded upon successful completion of NURN 4450.

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# Department of Public Health and Health Administration

phha.charlotte.edu

## Undergraduate Programs

- B.S. in Health Systems Management
  - Honors Program
- B.S. in Public Health (BSPH)
  - Honors Program
- Minor in Public Health
- Early Entry: Master of Health Administration (MHA)
- Early Entry: Master in Public Health (MPH)

The Department of Public Health and Health Administration (PHHA) is committed to advancing health by fostering innovative teaching and learning, generating evidence-based research, and engaging communities in meaningful ways. PHHA's mission is to prepare students and scholars to lead impactful public health initiatives, expand access to quality care, and contribute to healthier outcomes for populations.

The department's baccalaureate, master's, and doctoral degree programs in public health are accredited by the Council on Education for Public Health (CEPH) and a graduate program in health administration is accredited by the Commission on Accreditation of Healthcare Management Education (CAHME). The department is a member of the Association of Schools and Programs of Public Health (ASPPH), the American Public Health Association (APHA), and the Association of University Programs in Health Administration (AUPHA).

At the undergraduate level, the department offers the Bachelor of Science in Public Health (BSPH), the Bachelor of Science (B.S) in Health Systems Management, a Minor in Public Health, early entry to the Master of Public Health (MPH) and the Master of Health Administration (MHA), and participates in an interdisciplinary honors program that is available to students in the residential baccalaureate programs (BSPH and BS-HSMT).

At the graduate level, the department offers the Master of Public Health (MPH) and the Master of Health Administration (MHA) degrees and two doctoral degrees (Ph.D.): one in Public Health Sciences with a concentration in Behavioral Science and one in Epidemiology.

Additionally, the department offers the MPH as a dual degree in combination with the Master of Arts (M.A.) in Anthropology or the Master of Science (M.S.) in Health Informatics and Analytics, and the MHA in combination with the Master of Business Administration (MBA) or the M.S. in Health Informatics and Analytics. See the Graduate Catalog for details about the graduate programs, including early entry and dual degree options.

## Bachelor of Science in Health Systems Management

Health systems management consists of any and all administrative/management functions of the overall health system that support the delivery of products and services to improve population health. Health systems managers plan, direct, or coordinate business activities in hospitals, clinics, managed care organizations, nursing homes and assisted living facilities, health departments, pharmaceutical companies, medical device companies, non-profit agencies, or similar organizations.

The Bachelor of Science in Health Systems Management (HSMT) prepares students as entry-level generalists in the health systems management field through interdisciplinary approaches guided by culturally relevant perspectives. HSMT students complete general education requirements and 33 credit hours of study within the major.

The carefully sequenced HSMT curriculum is informed by the skills desired in all health system managers outlined by the American College of Healthcare Executives (see www.ache.org/-/media/ache/career-resource-center/competencies_booklet.pdf). Students complete courses in the critical domains of communication and relationship management, leadership, professionalism, knowledge of the health system care environment, and business skills and knowledge.

Continued study in the Department of Health Management and Policy is also an option for those interested in graduate degrees in Public Health (MPH) or Health Administration (MHA). The department also offers early-entry programs for exceptional students to both the MPH and MHA programs. For details on these programs, and other related graduate programs in health informatics, public administration, and public policy, see the *UNC Charlotte Graduate Catalog.*

### Admission Requirements

#### Freshmen and Transfers

- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

#### Currently Enrolled Students

- *Declaration of Major:* Students may declare the major at any time if they are in good academic standing. Current UNC Charlotte students may declare the Health Systems Management (HSMT) major at any time, as long as they have a cumulative GPA of 2.0 and are in good academic standing. First-time freshmen and new transfer students who do not yet have a UNC Charlotte GPA may declare the major during their first semester at UNC Charlotte.
- To change their major to Health Systems Management (HSMT), students must attend a CHHS Change of Major Orientation.

### Degree Requirements

#### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major

with departmental approval. Please see your advisor for information.

**Major Courses (33 credit hours)**
HSMT 2101 - Introduction to the Health Systems Management (3)
HSMT 2103 - Introduction to Human Resources Management (3)
HSMT 2104 - Introduction to the U.S. Healthcare System (3)
HSMT 3104 - Health Information Systems (3)
HSMT 3201 - Health System Leadership, Ethics, and Inter-Professional Communication (3)
HSMT 3203 - Introduction to Healthcare Accounting and Finance (3)
HSMT 3204 - Health System Organization Development and Behavior (3)
HSMT 4201 - Health Policy and Law (3)
HSMT 4202 - Quality Management and Improvement (3)
HSMT 4600 - Health Systems Management Capstone (3)
HLTH 2102 - Foundations of Public Health (3)
or HLTH 4090 - International Comparative Health Systems (3)
or HSMT 3301 - Health Insurance and Managed Care (3)
or UCOL 3410 - Career Development Internship (1 to 3) *(taken for 3 credit hours)*

**Elective Courses (47-53 credit hours)**
Students in the Health Systems Management major may wish to combine their major field of study with a related minor. UNC Charlotte offers a wide range of minors - although not required for the major - to complement and otherwise enrich student readiness for workplace settings that demand effective communication, critical thinking and problem solving skills, digital literacy, and effective teamwork. Students are encouraged to consider completing a minor and a large number of options exist on campus that would serve to complement the Health Systems Management major including: biology, communication studies, gerontology, international studies, management information systems, political science, and public health.

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements
A grade of C or above in HSMT 2101, HSMT 2103, and HSMT 2104 within two attempts* is required to progress in the major. Furthermore, students are limited to two attempts* to achieve a grade of D or above in HSMT 3104, HSMT 3201, HSMT 3203, HSMT 3204, HSMT 4201, HSMT 4202, and HSMT 4600. A minimum GPA of 2.0 in the major and a cumulative GPA of 2.0 at the University are required in order to graduate. Health Systems Management majors who accumulate more than three grades of D, F, or W in required HSMT courses will be terminated from the program. Health Systems Management majors who fall below a GPA of 2.0 in the major will be placed on probation. A student on probation whose GPA in the major remains below 2.0 at the next evaluation will be terminated from the program.

*Each of the following is considered an attempt: Withdrawing from the course after the drop deadline (may be appealed); grade replacement; Incompletes that convert to grades of F; and grades of A, B, C, D, or F.
**Each of the following is considered an attempt: Withdrawing from the course after the drop deadline (may be appealed); grade replacement; Incompletes that convert to grades of F; and grades of A, B, C, D, or F.*

# Honors Program in Public Health and Health Systems Management
The Public Health and Health Systems Management Honors Program is an academic honors program that encourages best practices aligning with the focus of the disciplinary areas.

## Admission Requirements
**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

Students in the BS in Public Health (BSPH) and BS in Health Systems Management (HSMT) programs are eligible to participate in the Honors Program during their upper division years of study. Consideration for admission to the Honors Program may be initiated by the student or by any faculty member in the Departments of Epidemiology and Community Health or Health Management and Policy.
Application criteria are as follows:

- Completion of 60 hours of coursework
- Health Systems Management majors must have completed at least 9 hours of coursework in the major
- Recommended overall GPA of 3.3 for all coursework completed at UNC Charlotte
- Submission of Public Health and Health Systems Management Honors application

The Disciplinary Honors Program Committee reviews the materials of all eligible student applicants and recommends to the Honors Program Director those individuals who should be admitted into the program.

## Course Requirements
Successful Honors Program candidates will complete at least 9 credit hours of Honors coursework (which count toward the 120 credit hours required for graduation). Specific requirements are:

1. HLTH 3790 in which the student does a literature review and develops a capstone project proposal
2. HLTH 3791 in which the student completes the project. The student must do an oral defense of the project in front of a committee that includes the topic advisor and two other faculty members.
3. Complete at least one additional Honors course (3 credit hours) and earn a grade of B or above for the course. The course may be HLTH Honors course or any other Honors course that is open to departmental honors students.
    - HLTH 3790 Honors Proposal Seminar
    - HLTH 3791 Honors Capstone Seminar

## Progression Requirements
To be awarded honors in Public Health and Health Systems Management, a student must:

- Complete the Honors Capstone Project (HLTH 3791) with a

grade of A,* including certification by the student's honors committee that the project is of honors quality and deserves that grade.
- Earn a minimum GPA of 3.25 in major courses
- Earn a minimum overall GPA of 3.25 at UNC Charlotte
- Complete the Application to Candidacy process for graduating with honors, as directed by the Honors College

Students may be removed without penalty from the Honors Program at any time upon their own request or upon recommendation of the Honors Program Director.

**In accordance with the policies of the Honors College, A is the required grade for the Honors Capstone Course.*

Following successful completion of these requirements, the honors notation will appear on the student's official transcript.

# Bachelor of Science in Public Health (BSPH)

Public health is the science and art of promoting health, preventing disease and injury, and prolonging life through organized efforts of society. Public health activities focus on entire populations rather than on individual patients, and public health professionals monitor and diagnose the health concerns of entire communities and promote healthy practices and behaviors to assure our populations stay healthy.

The Bachelor of Science in Public Health (BSPH) prepares students through didactic and practice experiences to apply core principles of public health education within a variety of community settings and to advance the public health profession. The BSPH program seeks to fulfill the Department of Epidemiology and Community Health's vision: "Healthy communities partnered with responsive population health systems." To support the department's mission, "Advancing health and well-being in an urbanizing world," the BSPH program develops leaders in evidence-based practice who advance the public's health. The program values collaboration, community engagement, innovation, professionalism, and healthcare access in its pursuit of attaining the highest possible standards of health and well-being.

The BSPH program is designed to prepare scholar-practitioners with knowledge and skills in the core concepts of public health, including health behavior, research and statistics in health, environmental health, epidemiology, and health administration, as well as in the planning, evaluation, organization, and conduct of community and public health services. The planned course of study adopts an interdisciplinary focus and includes the development of tailored skills through the successful completion of a minor, electives, and experiential learning. The degree program prepares students who are interested in pursuing health-related careers in health promotion, program delivery, health communication, community organization, and behavior change for entry level to mid-level positions in service and research in health departments, public health agencies, community-based organizations, outreach education programs, hospitals, private health organizations, and corporate wellness settings. The program is designed to appeal to students with interests in "population" rather than "clinical" health. Continued study in the Department of Epidemiology and Community Health is also an option for those interested in graduate degrees in Public Health or Health Administration. For details on these programs, see the *UNC Charlotte Graduate Catalog.*

## Admission Requirements

### Freshmen

- See University Admission Requirements
- *Minimum GPA:* 2.5
- Students must apply for admission to the upper-division Bachelor of Science in Public Health (BSPH) major through a competitive application process.
- *Pre-Major/Prerequisite Courses:* Completion of 60 credit hours prior to matriculation into BSPH program. This includes General Education courses and successful completion of PRPH courses as outlined below.
- Applications for admission are accepted by the stated deadline each Spring, and include academic transcripts, application, and a statement of future career goals.

### Currently Enrolled Students

*Declaration of Major:* Students wishing to pursue the BSPH program initially begin as Pre-Public Health (PRPH) majors. Students changing to Pre-Public Health from another major must attend a Change of Major workshop in CHHS Advising Center.

### Transfers

- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Pre-Major/Prerequisite Courses:* All incoming students begin as Pre-Public Health and apply to upper division once eligible
- *Transferable Credit Hours:* 24

## Degree Requirements

A minimum of 120 total earned credit hours is required for the degree. The Bachelor of Science in Public Health requires 21 credit hours of coursework in the Pre-Public Health major, 33 credit hours of coursework in the BSPH major, plus completion of a minor or second major, and other requirements as listed below.

### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education program. Students majoring in Public Health should plan on taking the following courses that meet general education and major requirements:

BIOL 1110 - Principles of Biology I (3)*
or BIOL 1115 - Principles of Biology II (3)*
or BIOL 2120 - General Biology I (3) *
STAT 1222 - Introduction to Statistics (3)

### Pre-Public Health Foundation Courses (21 credit hours)

***Prerequisite Core Courses (15 credit hours)***

BIOL 1110 - Principles of Biology I (3)*
or BIOL 1115 - Principles of Biology II (3)
or BIOL 2120 - General Biology I (3) *
HLTH 2101 - Healthy Lifestyles (3)
HLTH 2102 - Foundations of Public Health (3)
HLTH 2103 - Foundations of Global Health (3)
STAT 1222 - Introduction to Statistics (3)

** BIOL 1110L and BIOL 2120L are not required for the Pre-Major, but may be required if taking BIOL 1110, BIOL 1115, or BIOL 2120 to fulfill the Natural Sciences with Lab requirement of the General Education Program.*

***Health-Related Communication Courses (6 credit hours)***
*Select two of the following:*
COMM 1101 - Public Speaking (3)
COMM 2100 - Introduction to Communication Theory (3)
COMM 2105 - Small Group Communication (3)
COMM 2107 - Interpersonal Communication (3)
COMM 3115 - Health Communication (3)
COMM 3130 - Communication and Public Advocacy (3)
COMM 3135 - Leadership, Communication, and Group Dynamics (3)
COMM 3141 - Organizational Communication (3)

**Public Health Major Core Courses (33 credit hours)**
HLTH 3102 - Comparative Healthcare Systems (3)
HLTH 3103 - Behavior Change Theories and Practice (3)
HLTH 3104 - Research and Statistics in Health (3)
HLTH 3105 - Public Health Education and Promotion (3)
HLTH 3106 - Determinants of Health (3)
HLTH 3400 - Public Health Internship Preparation (3)
HLTH 4102 - Public Health Leadership and Policy (3)
HLTH 4104 - Epidemiology (3)
HLTH 4105 - Program Planning and Evaluation (3)
HLTH 4400 - Public Health Internship (3)
HLTH 4600 - Public Health Capstone (3)

**Additional Coursework (15 credit hours)**
Students pursuing the BSPH degree are expected to complete coursework complementary to Public Health. Students may select from one of the following options below in consultation with the BSPH Program Director.

***Option 1: Minor or Second Major***
Choose any minor on campus except the Minor in Public Health, or choose a second major. The choice of minor or second major should be considered in terms of individual educational and professional aspirations.

***Option 2: Health-Related Elective Coursework***
Complete 15 credit hours of health-related elective courses selected from any unrestricted HLTH 3000- or 4000-level course not fulfilling a PRPH or BSPH requirement. Other courses may be approved by the BSPH Program Director.

***Option 3: Pre-Health/Clinical Coursework***
Complete 15 credit hours towards pre-health/pre-clinical program prerequisites.

*Notes:*
- *This option is limited to students electing NOT to complete a minor/second major.*
- *Labs are not required in this option; however, they may be required for the programs in which students intend to apply.*

*Basic Sciences Courses (6 credit hours)*
*Select two of the following:*
CHEM 1251 - General Chemistry I (3)
CHEM 1252 - General Chemistry II (3)
PHYS 1101 - Introductory Physics I (3)
PHYS 1102 - Introductory Physics II (3)
PSYC 1101 - General Psychology (3)

*Advanced Sciences Courses (9 credit hours)*
*Select three of the following:*
BIOL 3111 - Cell Biology (3)
CHEM 2131 - Organic Chemistry I (3)
CHEM 2132 - Organic Chemistry II (3)
CHEM 4165 - Principles of Biochemistry I (3)
PHYS 2101 - Physics for Science and Engineering I (3)
PHYS 2102 - Physics for Science and Engineering II (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives). Study abroad courses are included.

### Degree Total = 120 Credit Hours

### Progression Requirements
To graduate with a BSPH degree, students must complete 120 credit hours including General Education, Pre-Public Health, Public Health, and minor or second major requirements. The cumulative GPA and the GPA in the Public Health major courses must a minimum of 2.5.

HLTH 2101, HLTH 2102, HLTH 2103, and HLTH 4104 may only be repeated with original grade of D, F, or W; and may not be attempted* more than twice.

**Each of the following is considered an attempt: Withdrawing from the course after the drop deadline (may be appealed); grade replacement; audits; Pass/No Credit; Incompletes that convert to grades of F; and grades of A, B, C, D, or F.*

## Minor in Public Health
The Minor in Public Health supports students interested in health-related careers or those seeking a health dimension within other career choices. Students in the minor come from biological, social, and behavioral sciences, as well as from health-related academic majors. The minor extends students' working knowledge of health applications that prepares them to be competitive in the job market and to make advanced degree choices.

Students seeking entry-level positions in health services or non-clinical health agencies and organizations after graduation will find this minor helpful in broadening their understanding of contemporary public health issues. Students in the minor are well positioned for graduate work in specific disciplines like psychology, sociology, social work, public health, health communication, or adult development and aging. The program also provides applied health content and added value to academic

degrees of students seeking admission to dental, nursing, medical, pharmacy, physical therapy and other professional schools.

The Minor in Public Health fosters an interdisciplinary perspective of individual and population health. National health priorities in the first decade of the 21st century emphasize interdisciplinary training. As students develop specific healthcare competencies, undergraduate interdisciplinary experiences provide students better flexibility in working across disciplines as well as within their own major.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

See University Admission Requirements

Students must have completed one Natural Sciences course from the list of the approved courses provided below to declare the Minor in Public Health. The course can be taken as part of the General Education Program requirements.

BINF 1101 - Introduction to Bioinformatics and Genomics (4)
BIOL 1110 - Principles of Biology I (3)
BIOL 1115 - Principles of Biology II (3)
BIOL 2120 - General Biology I (3)
BIOL 2273 - Human Anatomy and Physiology (3)
BIOL 2274 - Human Anatomy and Physiology II (3)
ESCI 1101 - Earth Sciences-Geography (3)
EXER 2168 - Human Anatomy and Physiology for the Health Professions (3)
EXER 2169 - Human Anatomy and Physiology for the Health Professions II (3)

## Minor Requirements

The Minor in Public Health is awarded only to students completing an undergraduate major at UNC Charlotte. The minor consists of 21 credit hours: 15 credit hours must come from a set of required courses and 6 credit hours must come from the set of elective courses.

**Required Natural Science Course (3 credit hours)**

Choose a Natural Science course from listed above in the Admissions Requirements section. This is a prerequisite for declaring the Minor in Public Health. The course can be taken as part of the General Education Program requirements.

**Required Core Courses (12 credit hours)**

HLTH 2101 - Healthy Lifestyles (3)
HLTH 2102 - Foundations of Public Health (3)
HLTH 2103 - Foundations of Global Health (3)
HLTH 4104 - Epidemiology (3)

**Elective Courses (6 credit hours)**

Select two of the following. Students are encouraged to take electives outside their major department and college to gain a broader health perspective. Please note that some courses may have prerequisites or other requirements. Students are not allowed to "double count" the elective courses; i.e., students cannot use the elective course to fulfill their major or another minor requirement. Because additions and deletions of courses may be made to correspond to current University offerings, students are encouraged to consult with the Program Coordinator as they plan their schedules.

AFRS 3261 - Psychology of the Black Experience (3)
AFRS 4630 - Environmental and Public Health in Africa (3)
ANTH 3122 - Culture, Health, and Disease (3)
ANTH 3222 - Culture, Health, and Disease (3)
ANTH 4131 - Culture, Pregnancy, and Birth (3)
COMM 3115 - Health Communication (3)
ECON 4141 - Health Economics (3)
FINN 3271 - Principles of Risk Management and Insurance (3)
GRNT 3115 - Health and the Aging Process (3)
PHIL 2220 - Healthcare Ethics (3)
POLS 3125 - Healthcare Policy (3)
SOCY 4168 - Sociology of Mental Health and Illness (3)
Any unrestricted HLTH 3000- or 4000-level course

## Minor Total = 21 Credit Hours

## Progression Requirements

To qualify for the Minor in Public Health upon graduation, students must have earned a GPA of at least 2.0 in courses applied to the minor. Students are required to have a grade of C or above in Required Core Courses. Students are allowed to attempt* these Core Courses in which they earned grades lower than a C no more than two times.

**Each of the following is considered an attempt: Withdrawing from the course after the drop deadline (may be appealed); grade replacement; audits; Pass/No Credit; Incompletes that convert to grades of F; and grades of A, B, C, D, or F.*

# Early Entry: Master of Health Administration

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.5 overall undergraduate GPA
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

Note: The GRE is NOT required of Early Entry applicants to the Health Administration program. Instead, applicants must meet with the Graduate Program Director prior to submitting an application. Applicants must submit all other elements of a standard graduate application to the program.

## Progression Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and

Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree.

### Special Policies or Requirements

Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees). Students may leave the program with their baccalaureate degree, or they may complete the remaining coursework required to earn the MPH. Students pursuing the Early Entry option can reduce the time needed to earn both degrees by one semester.

While admission is open to students pursuing any undergraduate major, students from health/health administration-related majors are this program's focus. Interested students should consult with the MPH Graduate Program Director about their eligibility and competitiveness for this program before applying.

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

## Early Entry: Master of Public Health

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**
- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.5 overall undergraduate GPA
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

### Progression Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree.

### Special Policies or Requirements

Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees). Students may leave the program with their baccalaureate degree, or they may complete the remaining coursework required to earn the MPH. Students pursuing the Early Entry option can reduce the time needed to earn both degrees by one semester.

This Early Entry Program is open to students from any major. Interested students should consult with the MPH Graduate Program Director about their eligibility and competitiveness for this program before applying.

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

## Honors Program in Public Health and Health Systems Management

The Public Health and Health Systems Management Honors Program is an academic honors program that encourages best practices aligning with the focus of the disciplinary areas.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

See University Admission Requirements

Students in the BS in Public Health (BSPH) and BS in Health Systems Management (HSMT) programs are eligible to participate in the Honors Program during their upper division years of study. Consideration for admission to the Honors Program may be initiated by the student or by any faculty member in the Departments of Epidemiology and Community Health or Health Management and Policy.
Application criteria are as follows:
- Completion of 60 hours of coursework
- Health Systems Management majors must have completed at least 9 hours of coursework in the major
- Recommended overall GPA of 3.3 for all coursework completed at UNC Charlotte
- Submission of Public Health and Health Systems Management Honors application

The Disciplinary Honors Program Committee reviews the materials of all eligible student applicants and recommends to the Honors Program Director those individuals who should be admitted into the program.

### Course Requirements

Successful Honors Program candidates will complete at least 9 credit hours of Honors coursework (which count toward the 120 credit hours required for graduation). Specific requirements are:

4. HLTH 3790 in which the student does a literature review and develops a capstone project proposal
5. HLTH 3791 in which the student completes the project. The student

must do an oral defense of the project in front of a committee that includes the topic advisor and two other faculty members.

6. Complete at least one additional Honors course (3 credit hours) and earn a grade of B or above for the course. The course may be HLTH Honors course or any other Honors course that is open to departmental honors students.
    - HLTH 3790 Honors Proposal Seminar
    - HLTH 3791 Honors Capstone Seminar

### Progression Requirements

To be awarded honors in Public Health and Health Systems Management, a student must:

- Complete the Honors Capstone Project (HLTH 3791) with a grade of A,* including certification by the student's honors committee that the project is of honors quality and deserves that grade.
- Earn a minimum GPA of 3.25 in major courses
- Earn a minimum overall GPA of 3.25 at UNC Charlotte
- Complete the Application to Candidacy process for graduating with honors, as directed by the Honors College

Students may be removed without penalty from the Honors Program at any time upon their own request or upon recommendation of the Honors Program Director.

**In accordance with the policies of the Honors College, A is the required grade for the Honors Capstone Course.*

Following successful completion of these requirements, the honors notation will appear on the student's official transcript.

# School of Social Work

socialwork.charlotte.edu

## Undergraduate Programs

- **Bachelor of Social Work (BSW)**
    - **Honors Program**

The School of Social Work offers a major in Social Work leading to the Bachelor of Social Work (BSW) degree. On the graduate level, the Department offers the Master of Social Work (MSW) degree. See the *UNC Charlotte Graduate Catalog* for details on the MSW.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

## Bachelor of Social Work (BSW)

Social work is a profession devoted to helping people function as effectively as possible within their environment, be it a context such as a family, a group, an organization such as a job, or a community. The UNC Charlotte BSW Program is accredited by the Council on Social Work Education, the accrediting body for social work education programs. The BSW degree prepares students for generalist social work practice with individuals, families, groups, organizations, and communities. Generalist practice relates to utilizing multiple types of interventions that would be useful for different types of social systems and client populations. BSW graduates provide services such as assessment and intervention, counseling, crisis intervention, referral, mediation, and advocacy with diverse populations across all age groups. BSW graduates work in a broad array of settings including: hospitals; group homes; mental health, substance abuse, child welfare, youth and family service agencies; nursing homes; and schools. The degree is centered in professional social work values and ethics within an increasingly global environment and is designed to affirm the human rights of diverse groups of people, especially populations-at-risk and groups which have historically been oppressed due to race, ethnicity, socioeconomic status, gender, sexual orientation, age, and ability. BSW education also provides an excellent foundation for those who wish to pursue graduate study in social work.

### Admission Requirements

#### Freshmen

- See University Admission Requirements
- *Minimum GPA:* Declaring the Major (Lower Division): 2.0 GPA; Upper Division Admission: 2.5 GPA
- *Pre-Major/Prerequisite Courses:* Students changing to the lower-division Social Work major from another major must attend a Change of Major workshop. Students entering the B.S.W. program upper-division sequence must apply and be accepted into the B.S.W. program to progress to the upper-division sequence. The application process is competitive. To apply, students must

demonstrate that they are on track for completing the following by the time of program entrance:

- 60 credit hours
- Completion of all General Education requirements
- A grade of C or above in SOWK 2182, SOWK 2183, BIOL 1110, BIOL 1110L, POLS 1110, PSYC 1101, STAT 1222, and SOCY 1101

### Transfers

- See University Admission Requirements
- *Minimum GPA*: Declaring the Major (Lower Division): 2.0 GPA; Upper Division Admission: 2.5 GPA
- *Pre-Major/Prerequisite Courses:* All incoming students begin as Pre-Social Work and apply to the Upper Division once eligible.
- *Transferable Credit Hours:* 24

## Degree Requirements

The Major in Social Work leading to the BSW degree consists of 120 credit hours.

### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information. Students majoring in Social Work should take the following courses that meet general education and major requirements:

BIOL 1110 - Principles of Biology I (3)
BIOL 1110L - Principles of Biology I Laboratory (1)
POLS 1110 - American Politics (3)
PSYC 1101 - General Psychology (3)
SOCY 1101 - Introduction to Sociology (3)
STAT 1222 - Introduction to Statistics (3)

### Major SOWK Courses (52 to 57 credit hours)

Students must receive a grade of C or better in every Major SOWK course, including Psychopathology (PSYC 2341). Students who receive two grades of D or F during matriculation in the Upper Division will be dismissed from the major.

PSYC 2341 - Introduction to Abnormal Psychology (3)
SOWK 1511 - Local Social Science: Issues of Health and Quality of Life (3)
SOWK 2182 - Human Behavior in the Social Environment I (3)
SOWK 2183 - Human Behavior in the Social Environment II (3)
SOWK 2184 - Writing for the Social Work Profession (1)
SOWK 3120 - Diversity and Populations-at-Risk (3)
SOWK 3133 - Community Engagement and Outreach (3)
SOWK 3180 - Case Management (3)
SOWK 3181 - Practice Methods I (3)
SOWK 3182 - Practice Methods II (3)
SOWK 3184 - Practice Methods III (3)
SOWK 3199 - Professional Behaviors, Ethics, and Communication (3)
SOWK 3201 - Foundations of Social Welfare (3)
SOWK 3202 - Social Welfare Policy (3)
SOWK 3482 – Social Work Practicum I (3 or 5)
SOWK 3484 – Social Work Practicum II (3 or 6)
SOWK 3900 - Social Work Research I (3)
SOWK 3988 - Social Work Research II (3)

### Population Group Courses (12 credit hours)

Social Work Students are required to select four courses from a pre-approved list that examines various population groups. These courses must be between the 1000 and 4000 level and cannot be any courses that are restricted, research focused (e.g., SOCY 3755 - Sociological Research Methods), seminar/internship focused (e.g., ANTH 4480 Internships in Anthropology or AFRS 4600 Senior Seminar in African Studies), honors courses (e.g. CJUS 4700 Criminal Justice Honors Thesis) or General Education Global and Local Themes (e.g., XXXX 1501/1511/1502/1512).

Approved 1000 - 4000 Level Population Departmental Courses:

African Studies
Anthropology
Child and Family Development*
Criminal Justice
Global Studies* (Asian, European, Holocaust etc.)
Japanese Studies*
Latin American Studies
Languages
Psychological Sciences
Religious Studies
Special Education
Social Work
Sociology
Women and Gender Studies

AFRS 1100 - Introduction to Africana Studies (3)
AFRS 2120 - African American Women (3)
AFRS 2170 - Introduction to Health and Environmental Issues in the Africana World (3)
AFRS 2215 - Black Families in the United States (3)
ANTH 1101 - Introduction to Anthropology (3)
ANTH 2117 - Cultures of the Caribbean (3)
ANTH 2122 - Beliefs, Symbols, and Rituals (3)
ANTH 2123 - Women in Cross-Cultural Perspective (3)
CJUS 2350 - Introduction to Corrections (3)
CJUS 2361 - Juvenile Justice (3)
GRNT 2100 - Aging and the Lifecourse (3) (SL)
GRNT 2372 - Adult Development and Aging (3)
GRNT 3115 - Health and the Aging Process (3)
GRNT 3267 - Sociology of Dying, Death and Bereavement (3)
GRNT 4110 - Sociology of Aging (3)
GRNT 4134 - Families and Aging (3)
GRNT 4250 - Aging Programs and Services (3)
GRNT 4365 - Grief and Loss Across the Lifespan (3)
LTAM 1100 - Introduction to Latin America (3)
LTAM 2116 - Contemporary Latin America (3)
LTAM 2117 - Cultures of the Caribbean (3)
LTAM 3110 - Black Families in the Diaspora (3)
PSYC 2370 - Child Development (3)
PSYC 2371 - Adolescent Development (3)
PSYC 2372 - Adult Development and Aging (3)
PSYC 3356 - Introduction to the Psychology of Women and Gender (3)
RELS 1200 - World Religions (3)
RELS 2101 - Introduction to Western Religions (3)
RELS 2102 - Introduction to Asian Religions (3)
RELS 2107 - Native American Religions (3)
RELS 2108 - Religion in American Culture (3)

RELS 2131 - Islam (3)
SOCY 2100 - Aging and the Lifecourse (3) (SL)
SOCY 3110 - American Minority Groups (3)
SOCY 3261 - Human Sexuality (3)
SOCY 4165 - Sociology of Women (3)
SOCY 4168 - Sociology of Mental Health and Illness (3)
SOWK 3090 - Topics in Social Work (3)
SOWK 4090 - Topics in Social Work (1 to 3)
SOWK 4101 - Social Work Practice with Older Adults (3)
SOWK 4102 - School Social Work (3)
SOWK 4103 - Child Welfare (3)
SOWK 4105 - Mental Health and Substance Use (3)
SOWK 4106 - Social Work Practice with Latino Communities (3)
SOWK 4109 - Systems of Care for Vulnerable Populations (3)
SOWK 4125 - Social Development in Malawi (3)
SOWK 4365 - Grief and Loss Across the Lifespan (3)
WGST 1101 - Introduction to Women's Studies (3)
WGST 2120 - African American Women (3)
WGST 2130 - Masculinity and Manhood (3)
WGST 2160 - Introduction to LGBTQ+ Studies (3)
WGST 3050 - Topics in Women's Studies (3)
WGST 3051 - Topics in Women's Studies (3)
WGST 3140 - Domestic Violence (3)
WGST 3152 - Modern Gay America (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements
In order to promote the progression of competent students through the Upper Division component of the social work major and eventually into the social work profession:

1. **Grade Point Average.** Students are considered to be in academic difficulty if their GPA drops below 2.0. Students will be advised to withdraw from the program if their grade point average falls below 2.0 overall or 2.25 in the Social Work major.
2. **Course Grades.** Students must receive a grade of C or better in every Upper Division SOWK course including Psychopathology (PSYC 2341). Students who receive two grades of D or F during matriculation in Upper Division will be dismissed from the major.
3. **Course Repeat.** Students who earn a grade of D or F are permitted one course repeat (i.e., students may pursue a course repeat on one occasion only during matriculation in Upper Division). Students who repeat a course and achieve a grade of C or higher may continue to progress in Upper Division. Students who receive a grade of D or F for a course repeat will be dismissed from the major. Students who have received No Credit in courses required for the social work major will need to retake the courses. However, this will not count towards their repeated course policies.
4. **Practicum Repeat**. Students are permitted to apply to repeat a practicum course only once, with the permission of the Practicum Education Committee. The Practicum Education Committee will review the student's application to repeat Practicum, as well as their overall performance in the Program, and will decide whether the student will be permitted to repeat the Practicum course. Practicum Education Committee denial decisions for repeating practicum will result in a student's dismissal from the major. In addition, a student who is permitted to repeat practicum and does not achieve a grade of C will be dismissed from the major.

## BSW Program Options
Two plans of study available:
1. BSW Upper Division Campus Based Option
    - Located at the main UNC Charlotte campus
    - Classes primarily face to face and meet during the daytime; occasional hybrid or online courses
    - In addition to classes, 16 hour per week internship is completed during the fall and spring semesters of senior year
2. BSW Upper Division Online (asynchronous and synchronous) Option
    - Online classes are scheduled as synchronous with "live" sessions or as asynchronous "without live" sessions
    - Synchronous class sessions are scheduled for weeknights and Saturdays
    - In addition to classes, 16 hour per week internship is completed during the fall and spring semesters of senior year

## Practicum Education
Practicum experiences are assigned from/in a variety of agencies and practice settings approved by the UNC Charlotte School of Social Work Practicum Education. Practicum Instructors, approved by the School of Social Work, guide the student through learning experiences, coordinating practicum experiences with the concurrent classroom coursework. The undergraduate practicum placement prepares students to apply generalist social work knowledge, skills, and values. Students complete a 16 hours per week practicum/internship during the fall and spring semesters of senior year.

## Special Programs
**School Social Work Licensure and Child Welfare**
***School Social Work***
Graduates BSW students of the program may also qualify for licensure as a School Social Worker in the state of North Carolina. The school social work license is awarded by the North Carolina Department of Public Instruction. To be eligible for school social work licensure, BSW students must complete a two-semester practicum placement in a school setting, take SOWK 4102 (School Social Work), and one additional pre-approved elective. Students interested in school social work licensure should begin planning at program entry with their advisors and the school social work licensure liaison.

For additional information about school social work licensure, please visit the UNC Charlotte School of Social Work School Social Work Licensure page or contact the licensure Liaison.

***Child Welfare***
North Carolina Child Welfare Education Collaborative UNC Charlotte participates in the North Carolina Child Welfare Education Collaborative

(CWEC), which is a joint effort of the NC DHHS and the School of Social Work. CWEC's mission is to strengthen the public child welfare workforce in North Carolina, thus, improving outcomes for families and children. At UNC Charlotte, CWEC students take SOWK 4103 (Child Welfare) as one of their electives, and participate in practicum at a child welfare agency. Students who complete all requirements for the CWEC program receive a certificate and medallion indicating they have successfully met North Carolina Child Welfare Training competencies.

For additional information about the North Carolina Child Welfare Education Collaborative at UNC Charlotte, please visit the North Carolina Child Welfare Education Collaborative page or contact the CWEC Liaison.

# Honors Program in Social Work

The Social Work Honors Program is an academic honors program that emphasizes research, practice, and policy activities that align with the focus of the profession.

## Admission Requirements

### Current UNC Charlotte Undergraduate Students

Students may apply for admission to the undergraduate Social Work Honors Program during the Fall semester of their first year of upper-division matriculation. The undergraduate admissions committee will determine the process for review of applications.

Admission criteria are as follows:

- See University Admission Requirements
- Overall GPA of 3.4
- Submit a social work honors application which includes an essay
- Submit a completed recommendation form
- Upon acceptance, the student must sign the Honors College Student Code form

## Course Requirements

Social Work Honors students must submit a capstone project during the last year of their progression in the undergraduate social work program. This project demonstrates the collection, selection, and reflection of high-quality course assignments, research activities, and/or projects. This project is carried out in conjunction with the senior field education course (SOWK 3484). The information below provides further details regarding the capstone project.

- The capstone project must align with the Council on Social Work Education (CSWE) Educational Policy and Accreditation Standards and the student's preferred target population for social work practice.
- Students prepare a proposal in the Fall semester of their last year in the program based on their preferred target population and detailing the methodology for their project which includes the following:
    - A literature review
    - A theoretical framework
    - Selection of three selected EPAS standards and detail regarding proposed artifacts that demonstrate proficiency including assignments, projects, and/or activities
    - The drafted proposal for the planned contents for the capstone project must be provided to the committee in the Fall semester of the final year of the program
- In the Spring semester of their last year in the program, honors students will ensure they have collected and selected high-quality content to demonstrate a high level of proficiency. They complete the following:
    - Provide a written paper which includes a literature review, theoretical framework, selection of EPAS standards, detailed explanation of artifacts utilized for the capstone project, and a synthesis of findings
    - The capstone project is orally defended before the committee in the Spring semester of the final year of the program

## Progression Requirements

To remain in the Social Work Honors program, students must:

- Maintain a minimum of a 3.4 overall grade point average
- Maintain a minimum of a 3.4 cumulative grade point average in all Social Work courses counted toward the major

To graduate with Honors in Social Work, students must:

- Produce a written capstone project proposal in the Fall semester. It must be judged by a committee of readers and pass.
- Provide an oral defense of the capstone project before a committee. It must be judged by a committee of readers as "A" quality to pass.
- Comply with all procedural requirements established by the Honors College for graduating with honors in a department
- Have a minimum cumulative GPA of 3.4
- Earn a grade of A in the culminating senior field education course (SOWK 3484)
- Complete the Application to Candidacy process for graduating with honors, as directed by the Honors College, This is a two-semester process, and students must apply in both the Fall and Spring.

The Honors notation will appear on a student's official transcript and noted on the commencement program.

If all requirements are not met, students can still progress through the B.S.W. program and complete degree requirements, but they will not graduate with designated honors.

# College of
# Humanities & Earth and Social Sciences

# College of Humanities & Earth and Social Sciences

chess.charlotte.edu

The College of Humanities & Earth and Social Sciences (CHESS) is an academic community engaged in advancing the discovery, dissemination, and application of knowledge in the traditional areas of liberal arts and the earth and social sciences as well as in emerging areas of study. As a community focused on learning and teaching, the College is guided by an unshakeable commitment to humanistic values and ethical conduct, by a creative and entrepreneurial frame of mind, and by an awareness of the global context in which the University exists.

The liberal arts are the core of the University's educational program, both for students majoring in liberal arts and for students majoring in all other degree programs. As a result, courses offered within the College of Humanities & Earth and Social Sciences are frequently those designated to satisfy University General Education requirements (see *General Education Requirements* in the *Degree Requirements and Academic Policies* section of this *Catalog*).

## Departments

The College of Humanities & Earth and Social Sciences consists of these departments/offices:

- Department of Aerospace Studies (Air Force ROTC)
- Department of Africana Studies
- Department of Anthropology
- Department of Communication Studies
- Department of Criminal Justice and Criminology
- Department of English
- Department of Earth, Environmental, and Geographical Sciences
- Department of Global Studies
- Department of History
- Office of Interdisciplinary Studies
- Department of Languages, Cultures, and Translation
- Department of Military Science (Army ROTC)
- Department of Philosophy
- Department of Political Science and Public Administration
- Department of Psychological Science
- Department of Religious Studies
- Department of Sociology

# Degree Programs

### Majors

- Bachelor of Arts in Africana Studies
- Bachelor of Arts in Anthropology
- Bachelor of Arts in Communication Studies
- Bachelor of Arts in Criminal Justice
- Bachelor of Science in Earth and Environmental Sciences
- Bachelor of Arts in English
- Bachelor of Arts in Environmental Sciences
- Bachelor of Arts in French
- Bachelor of Arts in Geography
- Bachelor of Science in Geography
- Bachelor of Science in Geology
- Bachelor of Arts in German
- Bachelor of Arts in Global Studies
- Bachelor of Arts in History
- Bachelor of Arts in Interdisciplinary Studies
- Bachelor of Arts in Japanese
- Bachelor of Arts in Latin American Studies
- Bachelor of Arts in Meteorology
- Bachelor of Arts in Philosophy
- Bachelor of Arts in Political Science
- Bachelor of Science in Psychology
- Bachelor of Arts in Religious Studies
- Bachelor of Arts in Sociology
- Bachelor of Arts in Spanish
- Bachelor of Arts in Writing, Rhetoric, and Digital Studies

### Minors

- Aerospace Studies
- Africana Studies
- American Studies
- Arabic Studies
- Anthropology
- Artificial Intelligence Fundamentals
- Capitalism Studies
- Children's Literature and Childhood Studies
- Chinese
- Cognitive Science
- Communication Studies
- Comparative Literature and Cultural Studies
- Crime Analytics
- Criminal Justice
- Earth and Environmental Sciences
- English
- Film Studies
- Francophone Studies
- French
- Geography
- Geology
- German
- Gerontology
- Health & Medical Humanities
- History
- Holocaust, Genocide, and Human Rights Studies
- International Studies
- Japanese
- Journalism
- Latin American Studies
- Legal Studies
- Linguistics
- Military Science
- Philosophy
- Political Science
- Psychology

- Public Administration
- Religious Studies
- Security and Intelligence Studies
- Sociology
- Spanish
- Statistics
- Sustainability
- Technical and Professional Writing
- Urban Studies
- Women's and Gender Studies
- Writing, Rhetoric, and Digital Studies

**Undergraduate Certificates**

- LANG: Business French
- LANG: Business German
- LANG: Business Japanese
- LANG : Business Spanish
- LANG: German for Engineering
- LANG: Hispanic Literary Studies
- LANG: Translating French-English
- LANG: Translating German-English
- LANG: Translating Japanese-English
- LANG: Translating Russian-English
- LANG: Translating Spanish-English
- Leadership, Innovation, Technology, and Diversity
- Leadership Studies
- Video Production

Although faculty within the College are committed to departmentally based programs, increased emphasis is being placed on providing strong interdisciplinary programs. The College also strives to promote intercultural understanding through its curriculum, as well as through student exchanges and travel opportunities.

# Degree Requirements

**General Education Requirements**

Since all students entering the University must meet the same General Education requirements regardless of major, it is appropriate to concentrate on the completion of those requirements before committing to a specific major. Undeclared students have time to enroll in courses in several disciplines, which allows them to make a more informed judgment about future career decisions. Advisors have a broad working experience with the requirements for majors and offer assistance as students search for the education choice best suited to their individual needs.

**Degree Programs/Majors and Minors Requirements**

Students in the College of Humanities & Earth and Social Sciences must satisfy the requirements for the degree program(s) in which they are enrolled. Students should consult with their chosen department to make certain they fully understand all degree requirements. Many students also pursue a second degree or even a minor(s) in conjunction with their major degree program. Students should be familiar with the requirements of any minor program of study they attempt to complete.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

**Foreign Language Requirement**

All students who earn a degree within the College of Humanities & Earth and Social Sciences are required to demonstrate proficiency in the language of their choice through the 1202 level. Proficiency can be demonstrated in one of the following ways:

- Completing the required coursework at UNC Charlotte
- Completing three years of the same foreign language in high school through level three
- Achieving a satisfactory score on the foreign languages placement test in Chinese (Mandarin), French, German, Italian, Japanese or Spanish
- Through approved transfer or transient credit earned at a college or university accredited by an accepted accrediting body
- By transferring in with an A.A., A.S. or A.F.A. degree
- A combination of the above methods (e.g., placing out of or earning transfer or transient credit for 1201 and completing the 1202 course, completing 1201 and placing out of or earning transfer or transient credit for 1202)

The following courses offered at UNC Charlotte meet the College of Humanities & Earth and Social Sciences' foreign language requirement. *Please note that the below courses also have prerequisites that students must meet prior to enrolling in the courses.*

ARBC 1202 - Elementary Arabic II (3)
CHNS 1202 - Elementary Chinese II (3)
FREN 1202 - Elementary French II (3)
GERM 1202 - Elementary German II (3)
ITLN 1202 - Elementary Italian II (3)
JAPN 1202 - Elementary Japanese II (3)
RUSS 1202 - Elementary Russian II (3)
SPAN 1202 - Elementary Spanish II (4)

If students wish to fulfill their requirement with a language not taught at UNC Charlotte they must follow the guidelines for Certification of Proficiency by contacting the Department of Languages, Cultures, and Translation.

This requirement applies to all students entering any degree program within the College of Humanities & Earth and Social Sciences except those students whose primary major is in the College of Engineering and are enrolled in one of the Dual Degree Programs with Physics.

Additionally, students in select departments have to satisfy a proficiency requirement through the intermediate (2000) or advanced (3000) level for their major. All students in the College of Humanities & Earth and Social Sciences should consult with their major department to determine whether or not they are required to complete the intermediate or advanced proficiency requirement as part of their major or related coursework.

## Advising

The College of Humanities & Earth and Social Sciences administers the Office of Advising and Student Services, an advising center for freshmen and transfer students who have enrolled in a major or pre-major within the college. Professional advisors are available to provide guidance on both first-year and/or pre-major requirements, as well as General Education requirements. The Student Services area of the College of Humanities & Earth and Social Sciences oversees all student services functions for the college, which includes the review of student appeals and requests, as well as academic-related issues that arise among students within CHESS.

The advising team is dedicated to establishing relationships with all CHESS freshmen and pre-major transfer students that help them achieve their academic, personal, and professional goals. The advisors are also dedicated to connecting students to enrichment opportunities in the departments as well as across campus and beyond..

## Experiential Learning and Service Opportunities

The college aims to inspire innovative thinking in undergraduate students and contribute to the development of creative problem solvers, innovative leaders, and engaged citizens. Students are also encouraged to participate in professional work experiences in support of their academic and career development through cooperative education, 49ership, departmental undergraduate research, community-engaged research and service, and internship programs offered to them. The partnership with the University Career Center expands experiential learning offerings so more students graduate with career-related experience. For more information about experiential learning opportunities, please see the University Career Center section of this *Catalog*.

# Department of Africana Studies

africana.charlotte.edu

## Undergraduate Programs

- B.A. in Africana Studies
  - Health and Environment
  - Popular Culture and Digital Media
  - Social Justice and the Law
  - Honors Program
- Minor in Africana Studies

The Department of Africana Studies curriculum focuses on four critical areas: history, culture, social policy (especially health and environment), and entrepreneurship, as these relate to the experiences of the peoples of African descent globally. The department offers a comprehensive liberal arts curriculum that enhances global awareness, engages social policies, fosters entrepreneurial skills in regional and transnational contexts, and develops the skills needed for success in the 21st century. Its interdisciplinary approach presents a stimulating diversity of perspectives integrated into a totality not available in other disciplines, programs, or departments. The curriculum is designed to provide a useful educational experience and academic skills for students who wish to consider graduate study or professional school and pursue careers in entrepreneurship; community development agencies; federal, state, and city civil service; business; museums and archives; health and environment fields; diplomatic and foreign service; as well as research, journalism, international organizations, and teaching.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

The goals of the Department of Africana Studies are:

a) To disseminate knowledge about the aggregate experience of peoples of African descent by offering a wide range of Africana courses to the University community and the public.
b) To generate new knowledge and paradigms about the experiences of peoples of African descent through research, publication, and teaching that are interdisciplinary, transnational, and intercultural.
c) To dispel myths and stereotypes about Blackness and Africa-derived cultures and practices through critical course content, programs, exchanges of ideas, and inter-cultural interaction.
d) To promote transnational perspectives that foster Sociocultural and political awareness to meet the critical challenges posed by globalization, professional careers, as well as the demands of the work world through exposure to relevant experiences and course requirements.
e) To provide general and specific academic skills to majors and non-majors through courses and activities that promote research, writing, reading, critical thinking, effective communication, and problem solving.
f) To advance the intellectual development and personal growth of students through the acquisition, synthesis, dissemination, and application of a multicultural liberal arts education.
g) To serve and contribute to local, national, and international civic institutions.

## Bachelor of Arts in Africana Studies

The Major in Africana Studies leading to a B.A. degree requires the completion of a minimum 30 credit hours in Africana Studies courses.

The major is ideal for students who want to work in a field where a background in liberal arts education is desirable, such as social and community services, media, teaching, entrepreneurship, business, government service, international organizations, museums and archives, corporate and organization diversity, and not-for-profit agencies. The major is also relevant for students who are interested in graduate study or professional school.

### Admission Requirements

**Freshmen and Transfers**

- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

**Currently Enrolled Students**

- *Declaration of Major*: Change of Major form accepted year-round; orientation/advising session while declaring major

### Degree Requirements

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

The Africana Studies department offers the Global Social Science (AFRS 1501) and the Local Humanities (AFRS 1512) general education courses. These are open to all students within and outside the department. Majors may apply 6 credits from general education courses to their degree requirements.

**Foreign Language Requirement (0-8 credit hours)**

For details on required courses, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirement.

**Major Courses (15 credit hours)**
AFRS 1100 - Introduction to Africana Studies (3)
AFRS 3290 - Research Methods (3)
AFRS 4600 - Senior Seminar in African Studies (3)

***History Courses***
*Select one of the following:*
AFRS 2156 - African Civilization (3)
AFRS 2160 - The African American Experience through Civil War (3)
AFRS 2161 - The African American Experience: Civil War to Civil Rights (3)
AFRS 2207 - Pan-Africanism (3)
AFRS 2221 - Modern Africa (3)
AFRS 3150 - The African American Church and Civil Rights (3)
AFRS 3154 - Globalization in African History (3)
AFRS 3260 - Slavery, Racism, and Colonialism in the African Diaspora (3)
AFRS 3270 - Afro-Latin American History (3)
AFRS 3278 - Race in the History of Brazil (3)

***Theory Courses***
*Select one of the following:*
AFRS 2172 - Black Sexuality and Health (3)
AFRS 2215 - Black Families in the United States (3)
AFRS 3101 - Perspectives on Race and Ethnicity in the US (3)
AFRS 3179 - African American Political Philosophy (3)
AFRS 3200 - Folklore of Africa and the African Diaspora (3)
AFRS 3218 - Racial Violence, Colonial Times to Present (3)
AFRS 3240 - Race and the Law (3)
AFRS 3261 - Psychology of the Black Experience (3)
AFRS 3262 - Philosophy and Race (3)
AFRS 3265 - African Economic Development (3)
AFRS 4100 - African Diaspora Theory (3)

**Restricted Elective Courses (15 credit hours)**
*Select five of the following:*
AFRS 1501 - Global Social Science: Africana Studies (3)
AFRS 1512 – Local Arts/Humanities: Africana Studies (3)
AFRS 2050 - Topics in Africana Studies (3)
AFRS 2103 - Introduction to Hip Hop (3)
AFRS 2105 - Black Images in the Media in the U.S. (3)
AFRS 2107 - Global Hip Hop (3)
AFRS 2111 - Yoruba Language and Culture I (3)
AFRS 2112 - Yoruba Language and Culture II (3)
AFRS 2120 - African American Women (3)
AFRS 2156 - African Civilization (3)
AFRS 2160 - The African American Experience through Civil War (3)
AFRS 2161 - The African American Experience: Civil War to Civil Rights (3)
AFRS 2170 - Introduction to Health and Environmental Issues in the Africana World (3)
AFRS 2172 - Black Sexuality and Health (3)
AFRS 2174 - Environmental Literature in Africa and the Caribbean (3)
AFRS 2206 - African Literature, Music, and Art (3)
AFRS 2207 - Pan-Africanism (3)
AFRS 2215 - Black Families in the United States (3)
AFRS 2221 - Modern Africa (3)
AFRS 2301 - Introduction to African American Literature (3)
AFRS 3050 - Topics in Africana Studies (3)
AFRS 3121 - Contemporary African Art (3)
AFRS 3150 - The African American Church and Civil Rights (3)
AFRS 3154 - Globalization in African History (3)
AFRS 3155 - Health and Healing in Africa (3)
AFRS 3159 - African American Poetry (3)
AFRS 3179 - African American Political Philosophy (3)
AFRS 3192 - African Cinema (3)
AFRS 3200 - Folklore of Africa and the African Diaspora (3)
AFRS 3218 - Racial Violence, Colonial Times to Present (3)
AFRS 3240 - Race and the Law (3)
AFRS 3250 - African Americans and Health Communication (3)
AFRS 3260 - Slavery, Racism, and Colonialism in the African Diaspora (3)
AFRS 3261 - Psychology of the Black Experience (3)
AFRS 3262 - Philosophy and Race (3)
AFRS 3264 - Business Culture and Entrepreneurship in Africa (3)
AFRS 3265 - African Economic Development (3)
AFRS 3270 - Afro-Latin American History (3)
AFRS 3278 - Race in the History of Brazil (3)
AFRS 3328 - West African Art and Display (3)
AFRS 3395 - African American Art (3)
AFRS 3692 - Colloquium (3)
AFRS 3895 - Independent Study (1 to 3)
AFRS 3990 - Senior Project in Africana Studies (2 to 15)
AFRS 4050 - Topics in Africana Studies (3)
AFRS 4105 - African International Relations (3)
AFRS 4401 - Professional Internship in Africana Studies (3)
AFRS 4630 - Environmental and Public Health in Africa (3)
AFRS 4640 - Environment, State, and Society in the Caribbean and Latin America (3)
AFRS 4652 - Race, Health, and the African Diaspora (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

### Progression Requirements
A minimum 2.0 grade point average is required in the 30 credit hours of the Major in Africana Studies.

## Bachelor of Arts in Africana Studies *with Concentration in Health and Environment*
Students may, if desired, complete a Concentration in Health and Environment as part of the B.A. in Africana Studies. The concentration focuses on the cultural, social, ethical, psychological, historical, and policy dimensions of the pertinent health and environmental issues in the global Africana World. The concentration requires the completion of 30 credit hours in Africana Studies courses as follows.

## Admission Requirements

### Freshmen and Transfers

- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

### Currently Enrolled Students

- *Declaration of Major*: Change of Major form accepted year-round; orientation/advising session while declaring major

## Degree Requirements

### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

The Africana Studies department offers the Global Social Science (AFRS 1501) and the Local Humanities (AFRS 1512) general education courses. These are open to all students within and outside the department. Majors may apply 3 credits from general education courses to their degree requirements.

### Foreign Language Requirement (0-8 credit hours)

For details on required courses, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirement.

### Major Courses (18 credit hours)

AFRS 1100 - Introduction to Africana Studies (3)
AFRS 2170 - Introduction to Health and Environmental Issues in the Africana World (3)
AFRS 3290 - Research Methods (3)
AFRS 4600 - Senior Seminar in African Studies (3)

#### *History Courses*

*Select one of the following:*
AFRS 2156 - African Civilization (3)
AFRS 2160 - The African American Experience through Civil War (3)
AFRS 2161 - The African American Experience: Civil War to Civil Rights (3)
AFRS 2207 - Pan-Africanism (3)
AFRS 2221 - Modern Africa (3)
AFRS 3150 - The African American Church and Civil Rights (3)
AFRS 3154 - Globalization in African History (3)
AFRS 3260 - Slavery, Racism, and Colonialism in the African Diaspora (3)
AFRS 3270 - Afro-Latin American History (3)
AFRS 3278 - Race in the History of Brazil (3)

#### *Theory Courses*

*Select one of the following:*
AFRS 2172 - Black Sexuality and Health (3)
AFRS 2215 - Black Families in the United States (3)
AFRS 3101 - Perspectives on Race and Ethnicity in the US (3)
AFRS 3179 - African American Political Philosophy (3)
AFRS 3200 - Folklore of Africa and the African Diaspora (3)
AFRS 3218 - Racial Violence, Colonial Times to Present (3)
AFRS 3240 - Race and the Law (3)
AFRS 3261 - Psychology of the Black Experience (3)
AFRS 3262 - Philosophy and Race (3)
AFRS 3265 - African Economic Development (3)
AFRS 4100 - African Diaspora Theory (3)

### Restricted Elective Courses (12 credit hours)

Three to four courses (9-12 credits) from the following and other AFRS courses approved by the Department Chair:

#### *AFRS Elective Courses*

AFRS 2172 - Black Sexuality and Health (3)
AFRS 3155 - Health and Healing in Africa (3)
or HIST 3155 - Health and Healing in Africa (3)
AFRS 3250 - African Americans and Health Communication (3)
AFRS 3261 - Psychology of the Black Experience (3)
AFRS 3895 - Independent Study (1 to 3)
AFRS 4630 - Environmental and Public Health in Africa (3)
AFRS 4640 - Environment, State, and Society in the Caribbean and Latin America (3)
AFRS 4652 - Race, Health, and the African Diaspora (3)

#### *Other Elective Courses*

One elective course (3 credit hours) MAY be taken from the following or any other related course approved by the Department Chair:
AFRS 1501 – Global Social Science: Africana Studies (3)
AFRS 1512 – Local Arts/Humanities: Africana Studies (3)
ANTH 2126 - World Population Problems (3)
ANTH 3124 - Food, Nutrition and Culture (3)
ANTH 4131 - Culture, Pregnancy and Birth (3)
COMM 3051 - Topics in Health Communication (3)
COMM 3115 - Health Communication (3)
ESCI 2101 - The Environmental Dilemma (3)
GEOG 2103 - Elements of GIScience and Technologies (4)
GEOG 3215 - Environmental Planning (3)
GRNT 3115 - Health and the Aging Process (3)
or HLTH 3115 - Health and the Aging Process (3)
HIST 2140 - Disease and Medicine in History (3)
HLTH 2101 - Healthy Lifestyles (3)
HLTH 3102 - Comparative Healthcare Systems (3)
HLTH 3103 - Behavior Change Theories and Practice (3)
HLTH 4090 - International Comparative Health Systems: Western Europe - (3)
HLTH 4103 - Environmental Health: - A Global Perspective (3)
HLTH 4104 - Epidemiology (3)
HLTH 4280 - Global Health Issues (3)
POLS 3125 - Health Care Policy (3)
SOCY 2169 - Sociology of Health and Illness (3)

### Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements

A minimum 2.0 grade point average is required in the 30 credit hours of

the Major in Africana Studies.

### Research Project/Professional Internship

During their Junior or Senior year, students may design and work on a major research project or enroll in a professional internship program at places such as the Harvey B. Gantt Center for African American Arts + Culture; Charlotte City Hall; International House; Levine Museum of the New South; Planned Parenthood; Latibah Collard Green Museum; Neighborhood Good Samaritan Center, Inc.; Juneteeth Festival of the Carolinas; the *Charlotte Observer*, and the *Charlotte Post.*

### Study Abroad

Students may take advantage of the opportunity to travel, work, and study abroad in an exchange program, especially in Africa, the Caribbean, and Europe, as well as with the Peace Corps and Operation Crossroads. For more information, visit the Office of Education Abroad at edabroad.charlotte.edu.

## Bachelor of Arts in Africana Studies *with Concentration in Popular Culture and Digital Media*

Students may, if desired, complete a Concentration in Popular Culture and Digital Media as part of the B.A. in Africana Studies. The concentration focuses on the cultural, social, ethical, psychological, historical, and policy dimensions of the pertinent popular culture and digital media issues in the global Africana World. The concentration requires the completion of 30 credit hours in Africana Studies courses as follows.

### Admission Requirements

**Freshmen and Transfers**

- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

**Currently Enrolled Students**

- *Declaration of Major*: Change of Major form accepted year-round; orientation/advising session while declaring major

### Degree Requirements

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

The Africana Studies department offers the Global Social Science (AFRS 1501) and the Local Humanities (AFRS 1512) general education courses. These are open to all students within and outside the department. Majors may apply 3 credits from general education courses to their degree requirements.

**Foreign Language Requirement (0-8 credit hours)**

For details on required courses, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirement.

**Major Courses (18 credit hours)**

AFRS 1100 - Introduction to Africana Studies (3)
AFRS 2105 – Black Images in the Media in the U.S. (3)
AFRS 3290 - Research Methods (3)
AFRS 4600 - Senior Seminar in African Studies (3)

***History Courses***

*Select one of the following:*
AFRS 2156 - African Civilization (3)
AFRS 2160 - The African American Experience through Civil War (3)
AFRS 2161 - The African American Experience: Civil War to Civil Rights (3)
AFRS 2207 - Pan-Africanism (3)
AFRS 2221 - Modern Africa (3)
AFRS 3150 - The African American Church and Civil Rights (3)
AFRS 3154 - Globalization in African History (3)
AFRS 3260 - Slavery, Racism, and Colonialism in the African Diaspora (3)
AFRS 3270 - Afro-Latin American History (3)
AFRS 3278 - Race in the History of Brazil (3)

***Theory Courses***

*Select one of the following:*
AFRS 2172 - Black Sexuality and Health (3)
AFRS 2215 - Black Families in the United States (3)
AFRS 3101 - Perspectives on Race and Ethnicity in the US (3)
AFRS 3179 - African American Political Philosophy (3)
AFRS 3200 - Folklore of Africa and the African Diaspora (3)
AFRS 3218 - Racial Violence, Colonial Times to Present (3)
AFRS 3240 - Race and the Law (3)
AFRS 3261 - Psychology of the Black Experience (3)
AFRS 3262 - Philosophy and Race (3)
AFRS 3265 - African Economic Development (3)
AFRS 4100 - African Diaspora Theory (3)

**Restricted Elective Courses (12 credit hours)**

Three to four courses (9-12 credits) from the following and other AFRS courses. All topics courses, independent studies, internships, and colloquia must be approved by the Department Chair.

***AFRS Elective Courses***

AFRS 2050 -Topics in Africana Studies (3)
AFRS 2103 – Introduction to Hip Hop (3)
AFRS 2107 – Global Hip Hop (3)
AFRS 2206 – African Literature, Music, and Art (3)
AFRS 3050 – Topics in Africana Studies (3)
AFRS 3192 – African Cinema (3)
AFRS 3200 – Folklore of Africa and the African Diaspora (3)
AFRS 3692 – Colloquium (3)
AFRS 3895 – Independent Study (3)
AFRS 4050 – Topics in Africana Studies (3)
AFRS 4401 – Professional Internship in Africana Studies (3)

***Other Elective Courses***

One elective course (3 credit hours) MAY be taken from the following or any other related course approved by the Department Chair:

COMM 3125 – New Media for Communications (3)
COMM 3126 – Globalization and Digital Media (3)
ENGL 2106 – Film Criticism (3)

ENGL 3180 – Language and Digital Technology (3)
ENGL 4267 – Language and Culture in Digital Spaces (3)
SOCY 2112 – Popular Culture (3)
WRDS 3211 – Online Writing: Ethics, Appropriation, and Social Media (3)
WRDS 3215 – Information Literacy and Digital Composing (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements
A minimum 2.0 grade point average is required in the 30 credit hours of the Major in Africana Studies.

# Bachelor of Arts in Africana Studies *with Concentration in Social Justice and the Law*
Students may, if desired, complete a Concentration in Social Justice and the Law as part of the B.A. in Africana Studies. The concentration focuses on the cultural, social, ethical, psychological, historical, and policy dimensions of the pertinent social justice and legal issues in the global Africana World. The concentration requires the completion of 30 credit hours in Africana Studies courses as follows.

## Admission Requirements
**Freshmen and Transfers**
- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

**Currently Enrolled Students**
- *Declaration of Major*: Change of Major form accepted year-round; orientation/advising session while declaring major

## Degree Requirements
**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

The Africana Studies department offers the Global Social Science (AFRS 1501) and the Local Humanities (AFRS 1512) general education courses. These are open to all students within and outside the department. Majors may apply 3 credits from general education courses to their degree requirements.

**Foreign Language Requirement (0-8 credit hours)**
For details on required courses, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirement.

**Major Courses (18 credit hours)**
AFRS 1100 - Introduction to Africana Studies (3)
AFRS 3240 – Race and the Law (3)
AFRS 3290 - Research Methods (3)
AFRS 4600 - Senior Seminar in African Studies (3)

***History Courses***
*Select one of the following:*
AFRS 2156 - African Civilization (3)
AFRS 2160 - The African American Experience through Civil War (3)
AFRS 2161 - The African American Experience: Civil War to Civil Rights (3)
AFRS 2207 - Pan-Africanism (3)
AFRS 2221 - Modern Africa (3)
AFRS 3150 - The African American Church and Civil Rights (3)
AFRS 3154 - Globalization in African History (3)
AFRS 3260 - Slavery, Racism, and Colonialism in the African Diaspora (3)
AFRS 3270 - Afro-Latin American History (3)
AFRS 3278 - Race in the History of Brazil (3)

***Theory Courses***
*Select one of the following:*
AFRS 2172 - Black Sexuality and Health (3)
AFRS 2215 - Black Families in the United States (3)
AFRS 3101 - Perspectives on Race and Ethnicity in the US (3)
AFRS 3179 - African American Political Philosophy (3)
AFRS 3200 - Folklore of Africa and the African Diaspora (3)
AFRS 3218 - Racial Violence, Colonial Times to Present (3)
AFRS 3240 - Race and the Law (3)
AFRS 3261 - Psychology of the Black Experience (3)
AFRS 3262 - Philosophy and Race (3)
AFRS 3265 - African Economic Development (3)
AFRS 4100 - African Diaspora Theory (3)

**Restricted Elective Courses (12 credit hours)**
Three to four courses (9-12 credits) from the following and other AFRS courses approved by the Department Chair. Courses marked with an asterisk (*) must be approved in advance the Department Chair.

***AFRS Elective Courses***
AFRS 2050 -Topics in Africana Studies (3)*
AFRS 3050 – Topics in Africana Studies (3)*
AFRS 3150 – The African American Church and Civil Rights (3)
AFRS 3218 – Racial Violence: Colonial Times to the Present (3)
AFRS 3262 – Philosophy and Race (3)
AFRS 3692 – Colloquium (3)*
AFRS 3895 – Independent Study (3)*
AFRS 4040 – Topics in Africana Studies (3)*
AFRS 4401 – Professional Internship in Africana Studies (3)*

***Other Elective Courses***
One elective course (3 credit hours) MAY be taken from the following or any other related course approved by the Department Chair. Courses marked with an asterisk (*) must be approved in advance by the Department Chair.
GLST 3119 – Human Rights and Conflict (3)
GLST 3137 – International Human Rights (3)

HIST 3003 – Topics in Comparative History*
HIST 3172 – Political Repression and Rebellion in the Contemporary World (3)
POLS 3115 – Civil Rights and Civil Liberties (3)
POLS 3137 – International Human Rights (3)
SOCY 2172 – Social Problems (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

### Progression Requirements
A minimum 2.0 grade point average is required in the 30 credit hours of the Major in Africana Studies.

## Minor in Africana Studies
The Minor in Africana Studies requires the completion of 18 credit hours of Africana Studies courses.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

### Minor Requirements
**Required Courses (6 credit hours)**
AFRS 1100 - Introduction to Africana Studies (3)

*Select one of the following:*
AFRS 2172 - Black Sexuality and Health (3)
AFRS 2207 - Pan-Africanism (3)
AFRS 2215 - Black Families in the United States (3)
AFRS 3101 - Perspectives on Race and Ethnicity in the US (3)
AFRS 3179 - African American Political Philosophy (3)
AFRS 3200 - Folklore of Africa and the African Diaspora (3)
AFRS 3218 - Racial Violence, Colonial Times to Present (3)
AFRS 3240 - Race and the Law (3)
AFRS 3261 - Psychology of the Black Experience (3)
AFRS 3262 - Philosophy and Race (3)
AFRS 3265 - African Economic Development (3)
AFRS 4100 - African Diaspora Theory (3)

**Elective Courses (12 credit hours)**
AFRS 1501 – Global Social Science: Africana Studies (3)
AFRS 1512 – Local Arts/Humanities: Africana Studies (3)
AFRS 2xxx - Africana Studies Elective (3)
AFRS 2xxx - Africana Studies Elective (3)
AFRS 3xxx-4xxx - Africana Studies Elective (3)
AFRS 3xxx-4xxx - Africana Studies Elective (3)

### Progression Requirements
A minimum of 2.0 GPA is required for the 18 credit hours of the Minor in Africana Studies.

### Total = 18 Credit Hours

## Honors Program in Africana Studies
The Honors Program in Africana Studies provides opportunities for exceptional achievement in the Africana Studies major. The goal is to deepen the understanding of high-achieving and self-motivated students in the interdisciplinary field of Africana Studies. Students admitted into the Africana Studies honors program are required to successfully complete a research, creative, and/or community engagement project/thesis in the field of Africana Studies. The final product must demonstrate evidence of scholarly rigor, intellectual curiosity, and creative problem-solving.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
- See University Admission Requirements
- A declared Africana Studies major
- Completion of a minimum of 6 credit hours of AFRS courses with at least a B grade in each
- GPA of at least 3.25 in all Africana Studies courses counted toward the major and taken at UNC Charlotte
- GPA of at least 3.0 for all coursework at UNC Charlotte

### Course Requirements
**Research or Theory Course (3 credit hours)**
*Select one of the following:*
AFRS 3290 - Research Methods (3) *(Honors section)*
AFRS 4100 - African Diaspora Theory (3) *(Honors section)*

**Project/Thesis Course (3 credit hours)**
AFRS 4790 - Africana Studies Senior Honors Project/Thesis (3)

The honors project/thesis leads to a research, creative, and/or community engagement project/thesis. The honors project/thesis product may be in the form of digital (e.g., web-based), textual (a minimum of 20-page paper), database development, or a creative work. The product must show evidence that the honors project/thesis is driven by the quest to solve an applied problem, or develop a better understanding of a theoretical or practical issue.

### Progression Requirements
To graduate with honors in Africana Studies, students must:
- Comply with all of the requirements for a Major in Africana Studies
- Complete the Research or Theory course with grade of B or above
- Complete the Honors Project/Thesis with a grade of A

- Earn a minimum GPA of 3.25 in all Africana Studies courses counted toward the major and taken at UNC Charlotte
- Earn a minimum GPA of 3.0 for all coursework at UNC Charlotte
- Complete the Application to Candidacy process for graduating with honors, as directed by the Honors College

The honors notation will appear on a student's official transcript.

# Department of Anthropology

anthropology.charlotte.edu

## Undergraduate Programs

- B.A. in Anthropology
  - Applied Anthropology
  - Honors Program
- Minor in Anthropology
- Early Entry: M.A. in Anthropology

Anthropology is the study of humans and their cultures, and the exploration of human diversity in time and space. It is organized into four subfields: cultural anthropology, archaeology, biological anthropology, and linguistics. It emphasizes the comparative study of humans and the cross-cultural analysis of their social and cultural responses to fundamental human needs.

The study of anthropology is relevant for people whose goal is graduate study, as well as for people whose occupations and endeavors require a cross-cultural understanding of human nature and biology, human history and prehistory, and the variety of cultures humans have developed. It is particularly useful for teachers, medical personnel, social workers, and persons seeking careers in business and communications, as well as persons who plan to work in or with foreign countries. It provides competencies needed for employment in such organizations as museums, government agencies, school systems, corporations, police departments, the Park Service, and healthcare institutions.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

# Bachelor of Arts in Anthropology

A Major in Anthropology leading to the B.A. degree requires completion of 33-34 credit hours of anthropology coursework.

## Admission Requirements

### Freshmen and Transfers

- See University Admission Requirements
- *Minimum GPA*: 2.0. Students with a GPA below 2.0 should consult with departmental advisor.
- *Transferable Credit Hours:* 24 (a minimum of 12 credit hours of ANTH courses must be completed at UNC Charlotte)

### Currently Enrolled Students

- *Declaration of Major:* Change of Major form accepted year-round, except during pre-registration periods; orientation/advising session required after declaration

## Degree Requirements

### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

The Anthropology department offers the Global Social Science (ANTH 1501) and the Local Social Science (ANTH 1511) general education courses. These are open to all students within and outside the department. ANTH 1501 is required of all Anthropology Majors and Minors. ANTH 1511 may be counted as an elective.

### Foreign Language Requirement (0-4 credit hours)

Students with a Major in Anthropology must complete either a 2000-level course in a foreign language that uses the Latin alphabet or a 1202-level course in a language that is not written in the Latin alphabet, or demonstrate proficiency at that level. Non-native speakers of English may complete the foreign language requirement by passing WRDS 1103, WRDS 1104, or the equivalent.

#### *Latin Alphabet Courses*

FREN 2200 - French for Reading Knowledge (3)
FREN 2201 - Intermediate French I (3)
GERM 2201 - Intermediate German I (3)
ITLN 2201 - Intermediate Italian I (3)
PORT 2201 - Intermediate Portuguese I (3)
SPAN 2105 - Spanish Communication Skills Development I (3)
SPAN 2106 - Spanish Communication Skills Development II (3)
SPAN 2200 - Spanish for Reading Knowledge (3)
SPAN 2201 - Intermediate Spanish I (3)
SPAN 2210 - Introduction to Spanish for Commerce (3)
SPAN 3221 - Spanish for Criminal Justice (3)
SPAN 3222 - Spanish for Medical and Healthcare (3)

#### *Non-Latin Alphabet Courses*

ARBC 1202 - Elementary Arabic II (4)
CHNS 1202 - Elementary Chinese II (4)
FARS 1202 - Elementary Farsi II (4)
JAPN 1202 - Elementary Japanese II (4)
RUSS 1202 - Elementary Russian II (4)

### Major Courses (33-34 credit hours)

#### *Required Courses (12 credit hours)*

ANTH 1501 - Global Social Science: An Introduction to Anthropology (3)
ANTH 2171 - Engaging the Human Experience: Applying Anthropology in Life and Work (3)
ANTH 3601 - Foundations of Anthropological Theory (3)
ANTH 4601 - Seminar in General Anthropology (3)

#### *Biological Anthropology or Archaeology Course (3-4 credit hours)*

*Select one of the following:*
ANTH 2141 - Our Place in Nature: Introduction to Biological Anthropology (4)
and ANTH 2141L - Our Place in Nature: Introduction to Biological Anthropology Lab (0)
ANTH 2151 - Introduction to Archaeology (3)

#### *Sociocultural or Linguistic Anthropology Course (3 credit hours)*

*Select one of the following:*
ANTH 2121 - The Development of Topics and Themes in Sociocultural Anthropology (3)
ANTH 2161 - Introduction to Linguistic Anthropology (3)

#### *Anthropological Methods Course (3 credit hours)*

*Select one of the following:*
ANTH 3141 - Human Osteology (3)
ANTH 3153 - Archaeological Analysis (3)
ANTH 4122 - Ethnographic Methods (3)
ANTH 4140 - Field Biology of the Primates (3)
ANTH 4141 - Forensic Anthropology (3)
ANTH 4453 - Field Project in Archaeology (1 to 4)

#### *Other Elective Courses (12 credit hours)*

Select 12 credit hours of the following ANTH elective courses, including at least one elective at the 3000 level and one at the 4000 level. A second major course in each group above can count as an elective if not already taken above.

*Cultural Anthropology Courses*
ANTH 2010 - Topics in Ethnography (3)
ANTH 2020 - Topics in Cultural Anthropology (3)
ANTH 2112 - North American Indians (3)
ANTH 2114 - Indians of the Southeastern United States (3)
ANTH 2116 - Contemporary Latin America (3)
ANTH 2117 - Cultures of the Caribbean (3)
ANTH 2121 - The Development of Topics and Themes in Sociocultural Anthropology (3)
ANTH 2122 - Beliefs, Symbols, and Rituals (3)
ANTH 2123 - Women in Cross-Cultural Perspective (3)
ANTH 2125 - Urban Anthropology (3)
ANTH 2126 - World Population Problems (3)
ANTH 2127 - Environmental Anthropology (3)
ANTH 2131 - Introduction to Peace, Conflict, and Identity Studies (3)
ANTH 3020 - Topics in Cultural Anthropology (3)
ANTH 3112 - Globalization and Culture (3)
ANTH 3113 - Economic Anthropology (3)
ANTH 3117 - Narratives and Conflicts (3)
ANTH 3124 - Food, Nutrition, and Culture (3)
ANTH 3125 - Food and Globalization (3)

ANTH 3126 - Anthropology of Vampires, Ghosts, and Witchcraft (3)
ANTH 3127 - Anthropology of Violence (3)
ANTH 3135 - Origins of Globalization (3)
ANTH 3136 - Globalization and Resistance (3)
ANTH 3222 - Culture, Health, and Disease (3)
ANTH 4020 - Topics in Cultural Anthropology (3)
ANTH 4611 - Senior Seminar in Applied Anthropology (3) (SL)
ANTH 4122 - Ethnographic Methods (3)
ANTH 4131 - Culture, Pregnancy, and Birth (3)
ANTH 4615 - Readings in Middle East Ethnography (3)
ANTH 4622 - Readings in the Anthropology of Religion (3)

*Biological Anthropology Courses*
ANTH 2040 - Topics in Biological Anthropology (3)
ANTH 2142 - Primate Behavioral Ecology (3)
ANTH 2143 - The Fossil Evidence for Human Evolution (3)
ANTH 2144 - Neanderthals and Us (3)
ANTH 3040 - Topics in Biological Anthropology (3)
ANTH 3141 - Human Osteology (3)
ANTH 3143 - Race and Anthropology (3)
ANTH 3144 - Evolutionary Anthropology (3)
ANTH 3145 - Anthropological Genetics (3)
ANTH 4040 - Topics in Biological Anthropology (3)
ANTH 4140 - Field Biology of the Primates (3)
ANTH 4141 - Forensic Anthropology (3)

*Archaeological Anthropology Courses*
ANTH 2050 - Topics in Archaeology (3)
ANTH 2151 - Introduction to Archaeology (3)
ANTH 2152 - New World Archaeology (3)
ANTH 2153 - Historic Archaeology (3)
ANTH 2156 - African Civilization (3)
ANTH 3050 - Topics in Archaeology (3)
ANTH 3152 - Early Civilizations (3)
ANTH 3153 - Archaeological Analysis (3)
ANTH 3154 - European Prehistory (3)
ANTH 3157 - South American Prehistory (3)
ANTH 4050 - Topics in Archaeology
ANTH 4453 - Field Project in Archaeology (1 to 4)

*Linguistic Anthropology Courses*
ANTH 2161 - Introduction to Linguistic Anthropology (3)
ANTH 3160 - Gender, Culture, and Communication (3)
ANTH 4120 - Intercultural Communications (3)

*General Anthropology Courses*
ANTH 2090 - Topics in Anthropology (1 to 3)
ANTH 3090 - Topics in Anthropology (1 to 3)
ANTH 3895 - Directed Individual Study (1 to 4)
ANTH 4090 - Topics in Anthropology (1 to 3)
ANTH 4480 - Internship in Anthropology (3)
ANTH 4482 - Teaching Internship in Anthropology (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

### Progression Requirements
A GPA of at least 2.0 is required in the 33-34 credit hours of anthropology required for the major. ANTH 3601 and ANTH 4601 must be completed with a grade of C or above.

### Internships
Students should consult the department concerning internships and field schools in anthropology.

## Bachelor of Arts in Anthropology *with Concentration in Applied Anthropology*
The Concentration in Applied Anthropology is designed to equip anthropology majors with the skills needed for a career in applied anthropology, an area with growing employment opportunities. Applied anthropologists work in educational institutions, museums, zoos, health care organizations, non-profits, the business world, and elsewhere. Preparation for a career in applied anthropology involves developing a special set of job skills, in addition to a breadth of anthropological knowledge. Students who pursue a Concentration in Applied Anthropology complete coursework that will help them develop these skills.

***The Concentration in Applied Anthropology does not require more coursework than the traditional major.*** Instead, it requires specific coursework. Both options require a total of 33-34 credit hours in anthropology.

### Admission Requirements
**Freshmen and Transfers**
- See University Admission Requirements
- *Minimum GPA*: 2.0. Students with a GPA below 2.0 should consult with departmental advisor.
- *Transferable Credit Hours:* 24 (a minimum of 12 credit hours of ANTH courses must be completed at UNC Charlotte)

**Currently Enrolled Students**
- *Declaration of Major:* Change of Major form accepted year-round, except during pre-registration periods; orientation/advising session required after declaration

### Degree Requirements
**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

The Anthropology department offers the Global Social Science (ANTH 1501) and the Local Social Science (ANTH 1511) general education courses. These are open to all students within and outside the department. ANTH 1501 is required of all Anthropology Majors and Minors. ANTH 1511 may be counted as an elective.

**Foreign Language Requirement (0-4 credit hours)**
Students with a Major in Anthropology must complete either a 2000-level course in a foreign language that uses the Latin alphabet or a 1202-level course in a language that is not written in the Latin alphabet, or demonstrate proficiency at that level. Non-native speakers of English may complete the foreign language requirement by passing WRDS 1103, WRDS 1104, or the equivalent.

***Latin Alphabet Courses***
FREN 2200 - French for Reading Knowledge (3)
FREN 2201 - Intermediate French I (3)
GERM 2201 - Intermediate German I (3)
ITLN 2201 - Intermediate Italian I (3)
PORT 2201 - Intermediate Portuguese I (3)
SPAN 2105 - Spanish Communication Skills Development I (3)
SPAN 2106 - Spanish Communication Skills Development II (3)
SPAN 2200 - Spanish for Reading Knowledge (3)
SPAN 2201 - Intermediate Spanish I (3)
SPAN 2210 - Introduction to Spanish for Commerce (3)
SPAN 3221 - Spanish for Criminal Justice (3)
SPAN 3222 - Spanish for Medical and Healthcare (3)

***Non-Latin Alphabet Courses***
ARBC 1202 - Elementary Arabic II (4)
CHNS 1202 - Elementary Chinese II (4)
FARS 1202 - Elementary Farsi II (4)
JAPN 1202 - Elementary Japanese II (4)
RUSS 1202 - Elementary Russian II (4)

**Major Courses (33-34 credit hours)**
***Required Courses (12 credit hours)***
ANTH 1501- Global Social Science: An Introduction to Anthropology (3)
ANTH 2171 - Engaging the Human Experience: Applying Anthropology in Life and Work (3)
ANTH 3601 - Foundations of Anthropological Theory (3)
ANTH 4611 - Senior Seminar in Applied Anthropology (3) (SL)

***Biological Anthropology or Archaeology Course (3-4 credit hours)***
*Select one of the following:*
ANTH 2141 - Our Place in Nature: Introduction to Biological Anthropology (4)
and ANTH 2141L - Our Place in Nature: Introduction to Biological Anthropology Lab (0)
ANTH 2151 - Introduction to Archaeology (3)

***Sociocultural or Linguistic Anthropology Course (3 credit hours)***
*Select one of the following:*
ANTH 2121 - The Development of Topics and Themes in Sociocultural Anthropology (3)
ANTH 2161 - Introduction to Linguistic Anthropology (3)

***Anthropological Methods Course (3 credit hours)***
*Select one of the following in consultation with the department or academic advisor:*
ANTH 3141 - Human Osteology (3)
ANTH 3153 - Archaeological Analysis (3)
ANTH 4122 - Ethnographic Methods (3)
ANTH 4140 - Field Biology of the Primates (3)
ANTH 4141 - Forensic Anthropology (3)
ANTH 4453 - Field Project in Archaeology (1 to 4)
or other approved course

***Quantitative Skills Course (3 credit hours)***
*Select one of the following:*
STAT 1221 - Elements of Statistics I (3)
STAT 1222 - Introduction to Statistics (3)
SOCY 4156 - Quantitative Analysis (4)
or another approved statistics course

***Other Elective Courses (9 credit hours)***
Select 9 credit hours of the following ANTH elective courses, including at least one elective at the 3000 level and one at the 4000 level. A second major course in each group above can count as an elective if not already taken above.

*Cultural Anthropology Courses*
ANTH 2010 - Topics in Ethnography (3)
ANTH 2020 - Topics in Cultural Anthropology (3)
ANTH 2112 - North American Indians (3)
ANTH 2114 - Indians of the Southeastern United States (3)
ANTH 2116 - Contemporary Latin America (3)
ANTH 2117 - Cultures of the Caribbean (3)
ANTH 2121 - The Development of Topics and Themes in Sociocultural Anthropology (3)
ANTH 2122 - Beliefs, Symbols, and Rituals (3)
ANTH 2123 - Women in Cross-Cultural Perspective (3)
ANTH 2125 - Urban Anthropology (3)
ANTH 2126 - World Population Problems (3)
ANTH 2127 - Environmental Anthropology (3)
ANTH 2131 - Introduction to Peace, Conflict, and Identity Studies (3)
ANTH 3020 - Topics in Cultural Anthropology (3)
ANTH 3112 - Globalization and Culture (3)
ANTH 3113 - Economic Anthropology (3)
ANTH 3117 - Narratives and Conflicts (3)
ANTH 3124 - Food, Nutrition, and Culture (3)
ANTH 3125 - Food and Globalization (3)
ANTH 3126 - Anthropology of Vampires, Ghosts, and Witchcraft (3)
ANTH 3127 - Anthropology of Violence (3)
ANTH 3135 - Origins of Globalization (3)
ANTH 3136 - Globalization and Resistance (3)
ANTH 3222 - Culture, Health, and Disease (3)
ANTH 4020 - Topics in Cultural Anthropology (3)
ANTH 4122 - Ethnographic Methods (3)
ANTH 4131 - Culture, Pregnancy, and Birth (3)
ANTH 4615 - Readings in Middle East Ethnography (3)
ANTH 4622 - Readings in the Anthropology of Religion (3)

*Biological Anthropology Courses*
ANTH 2040 - Topics in Biological Anthropology (3)
ANTH 2142 - Primate Behavioral Ecology (3)
ANTH 2143 - The Fossil Evidence for Human Evolution (3)
ANTH 2144 - Neanderthals and Us (3)
ANTH 3040 - Topics in Biological Anthropology (3)
ANTH 3141 - Human Osteology (3)
ANTH 3143 - Race and Anthropology (3)
ANTH 3144 - Evolutionary Anthropology (3)
ANTH 3145 - Anthropological Genetics (3)
ANTH 4040 - Topics in Biological Anthropology (3)
ANTH 4140 - Field Biology of the Primates (3)
ANTH 4141 - Forensic Anthropology (3)

*Archaeological Anthropology Courses*
ANTH 2050 - Topics in Archaeology (3)
ANTH 2151 - Introduction to Archaeology (3)
ANTH 2152 - New World Archaeology (3)
ANTH 2153 - Historic Archaeology (3)
ANTH 2156 - African Civilization (3)
ANTH 3050 - Topics in Archaeology (3)
ANTH 3152 - Early Civilizations (3)
ANTH 3153 - Archaeological Analysis (3)
ANTH 3154 - European Prehistory (3)
ANTH 3157 - South American Prehistory (3)
ANTH 4050 - Topics in Archaeology
ANTH 4453 - Field Project in Archaeology (1 to 4)

*Linguistic Anthropology Courses*
ANTH 2161 - Introduction to Linguistic Anthropology (3)
ANTH 3160 - Gender, Culture, and Communication (3)
ANTH 4120 - Intercultural Communications (3)

*General Anthropology Courses*
ANTH 2090 - Topics in Anthropology (1 to 3)
ANTH 3090 - Topics in Anthropology (1 to 3)
ANTH 3895 - Directed Individual Study (1 to 4)
ANTH 4090 - Topics in Anthropology (1 to 3)
ANTH 4480 - Internship in Anthropology (3)
ANTH 4482 - Teaching Internship in Anthropology (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements
A GPA of at least 2.0 is required in the 33-34 hours of anthropology for the major. ANTH 3601 and ANTH 4611 must be completed with a grade of C or above.

**Special Policies or Requirements**
Students must be in their Junior or Senior year to enroll in ANTH 3601.

# Minor in Anthropology
The Minor in Anthropology requires the completion of 18 credit hours of anthropology courses.

## Admission Requirements
**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

## Minor Requirements
**Foundation Courses (6 credit hours)**
ANTH 1501 - Global Social Science: An Introduction to Anthropology (3)
ANTH 2171 - Engaging the Human Experience: Applying Anthropology in Life and Work (3)

**Elective Courses (12 credit hours)**
*Select four of the following, with at least one course from the Cultural or Linguistic subfields, and one course from the Biological or Archaelogical subfields:*

***Cultural Anthropology Courses***
ANTH 2010 - Topics in Ethnography (3)
ANTH 2020 - Topics in Cultural Anthropology (3)
ANTH 2112 - North American Indians (3)
ANTH 2114 - Indians of the Southeastern United States (3)
ANTH 2116 - Contemporary Latin America (3)
ANTH 2117 - Cultures of the Caribbean (3)
ANTH 2121 - The Development of Topics and Themes in Sociocultural Anthropology (3)
ANTH 2122 - Beliefs, Symbols, and Rituals (3)
ANTH 2123 - Women in Cross-Cultural Perspective (3)
ANTH 2125 - Urban Anthropology (3)
ANTH 2126 - World Population Problems (3)
ANTH 2127 - Environmental Anthropology (3)
ANTH 2131 - Introduction to Peace, Conflict, and Identity Studies (3)
ANTH 2151 - Introduction to Archaeology (3)
ANTH 2156 - African Civilization (3)
ANTH 3020 - Topics in Cultural Anthropology (3)
ANTH 3112 - Globalization and Culture (3)
ANTH 3113 - Economic Anthropology (3)
ANTH 3117 - Narratives and Conflicts (3)
ANTH 3124 - Food, Nutrition, and Culture (3)
ANTH 3125 - Food and Globalization (3)
ANTH 3126 - Anthropology of Vampires, Ghosts, and Witchcraft (3)

ANTH 3127 - Anthropology of Violence (3)
ANTH 3135 - Origins of Globalization (3)
ANTH 3136 - Globalization and Resistance (3)
ANTH 3160 - Gender, Culture, and Communication (3)
ANTH 3222 - Culture, Health, and Disease (3)
ANTH 4020 - Topics in Cultural Anthropology (3)
ANTH 4122 - Ethnographic Methods (3)
ANTH 4131 - Culture, Pregnancy, and Birth (3)
ANTH 4611 - Senior Seminar in Applied Anthropology (3) (SL)
ANTH 4615 - Readings in Middle East Ethnography (3)
ANTH 4622 - Readings in the Anthropology of Religion (3)

*Linguistic Anthropology Courses*
ANTH 2161 - Introduction to Linguistic Anthropology (3)
ANTH 4120 - Intercultural Communications (3)

*Biological Anthropology Courses*
ANTH 2040 - Topics in Biological Anthropology (3)
ANTH 2141 - Our Place in Nature: Introduction to Biological Anthropology (4)
ANTH 2142 - Primate Behavioral Ecology (3)
ANTH 2143 - The Fossil Evidence for Human Evolution (3)
ANTH 2144 - Neanderthals and Us (3)
ANTH 3040 - Topics in Biological Anthropology (3)
ANTH 3141 - Human Osteology (3)
ANTH 3143 - Race and Anthropology (3)
ANTH 3144 - Evolutionary Anthropology (3)
ANTH 3145 - Anthropological Genetics (3)
ANTH 4040 - Topics in Biological Anthropology (3)
ANTH 4140 - Field Biology of the Primates (3)
ANTH 4141 - Forensic Anthropology (3)

*Archaeological Anthropology Courses*
ANTH 2050 - Topics in Archaeology (3)
ANTH 2151 - Introduction to Archaeology (3)
ANTH 2152 - New World Archaeology (3)
ANTH 2153 - Historic Archaeology (3)
ANTH 2156 - African Civilization (3)
ANTH 3050 - Topics in Archaeology (3)
ANTH 3152 - Early Civilizations (3)
ANTH 3153 - Archaeological Analysis (3)
ANTH 3154 - European Prehistory (3)
ANTH 3157 - South American Prehistory (3)
ANTH 4050 - Topics in Archaeology
ANTH 4453 - Field Project in Archaeology (1 to 4)

*General Anthropology Courses*
ANTH 2090 - Topics in Anthropology (1 to 3)
ANTH 3090 - Topics in Anthropology (1 to 3)
ANTH 3895 - Directed Individual Study (1 to 4)
ANTH 4090 - Topics in Anthropology (1 to 3)
ANTH 4480 - Internship in Anthropology (3)
ANTH 4482 - Teaching Internship in Anthropology (3)

### Minor Total = 18 Credit Hours

### Progression Requirements
A GPA of at least 2.0 is required for the 18 credit hours of anthropology courses.

## Honors Program in Anthropology
The Department of Anthropology offers an honors program in Anthropology which provides opportunities for exceptional achievement in the Anthropology major.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
- See University Admission Requirements
- Declared Anthropology major
- Preferred minimum GPA of 3.5 in Anthropology courses
- Preferred minimum GPA of 3.2 overall

For further information, interested students should consult with the Department Honors Coordinator.

### Course Requirements (9 credit hours)
ANTH 4701 - Honors Research in Anthropology (3)
or ANTH 4611 - Senior Seminar in Applied Anthropology (3) (SL)
ANTH 4702 - Honors Writing in Anthropology (3)
One Honors College course

### Experiential Learning Requirement (3 credit hours)
An internship, field school, or semester-long study abroad program approved by the Departmental Honors Coordinator.

### Progression Requirements
To graduate with honors in Anthropology, students must:
- Satisfy all requirements for the B.A. degree with a major in Anthropology.
- Satisfy all general requirements for honors programs, as established in the document governing honors programs at UNC Charlotte.
- Complete at least 18 hours of the major at UNC Charlotte.
- Complete at least 3 hours of designated Honors courses. These courses may be taken in the University Honors program or in Anthropology or any other department (but not including ANTH 4701 or ANTH 4702). In practice, this means taking one course designated HONR, as well as the required anthropology courses.
- Maintain an overall GPA of at least 3.2 and a GPA of at least 3.5 in all Anthropology courses taken at UNC Charlotte.
- In addition to any Honors courses, also complete at least one of the following (or an alternative approved in advance by the Honors Coordinator in Anthropology):
    - A semester-long study-abroad program approved by UNC Charlotte
    - ANTH 4453 - Field Project in Archaeology
    - ANTH 4480 - Internship in Anthropology
    - ANTH 4482 - Teaching Internship in Anthropology
- Complete either ANTH 4701 or ANTH 4611 in the semester prior to taking ANTH 4702.
- ANTH 4701, Honors Research in Anthropology, is a 3-credit course during which the student plans and begins an independent research project. By the end of this course, the student will present a thesis proposal to the Anthropology honors committee. The thesis proposal will outline the research question, the basic theoretical background, and a plan of data collection for a thesis to

be completed in ANTH 4702.
- In exceptional cases, a student may use a paper prepared for another anthropology course as the preparation for further research to be completed in ANTH 4702. In this case, the requirement for ANTH 4701/ANTH 4611 will be waived by the Anthropology honors committee. The student must take responsibility for providing appropriate documentation to request waiver of this requirement. A student who wishes to take this route must submit the paper and a two-page proposal for continuation of the research by the end of the semester prior to taking ANTH 4702.
- Complete ANTH 4702 by completing a senior thesis containing original research and demonstrating excellent scholarship. All students in ANTH 4702 will have an ad-hoc thesis committee consisting of three people, including the honors thesis chair, the Anthropology honors coordinator, and one other faculty member. The committee makes the final decision about whether or not to confer Honors designation and will so inform the chair of the department and the University Honors Council.
- Students must submit an official Application for Admission to Candidacy for all honors programs. There is a standard form for this. For students who are enrolled only for departmental Honors in Anthropology, the application for candidacy is approved by the student's committee in the department, and then forwarded to the Honors College. The required date is usually Reading Day of each semester for graduation in the following semester. The form, instructions for students and for faculty, and the due date can be found on the website of the Honors College.

Upon completion of all program requirements above, the Honors notation will appear on the student's official transcript.

# Early Entry: Master of Arts in Anthropology

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 90 undergraduate credit hours and 18 credit hours of Anthropology courses (Students may apply with 80 credit hours completed and 10 credit hours in progress; however, they must have completed at least 90 credit hours prior to the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Minimum 3.5 GPA in Anthropology courses
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

## Progression Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree.

## Special Policies or Requirements

Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog.*

# Department of Communication Studies

communication.charlotte.edu

## Undergraduate Programs

- **B.A. in Communication Studies**
  - **Communication Studies**
  - **Rhetoric, Culture and Social Change**
  - **Health Communication**
  - **Media & Technology Studies**
  - **Organizational Communication**
  - **Public Relations**
  - **Honors Program**
- **B.A. in Writing, Rhetoric, and Digital Studies**
- **Minor in Communication Studies**
- **Minor in Journalism**
- **Minor in Writing, Rhetoric, and Digital Studies**
- **Undergraduate Certificate in Leadership Studies**
- **Early Entry: M.A. in Communication Studies**

Communication Studies is one of the largest majors in the College of Humanities & Earth and Social Sciences at UNC Charlotte. The Communication Studies discipline focuses on the theoretical, critical, and scientific study of human communication across diverse cultures.

The undergraduate program provides students with an examination of communication theories, practices, and processes in a variety of contexts, including media technology, public relations, health, organizations, and public culture.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

### Undergraduate Program

The undergraduate program offers concentrations in Health Communication, Media & Technology Studies, Organizational Communication, Rhetoric, Culture, and Social Change, and Public Relations. In addition to the core requirements for the Communication Studies major, students must also complete coursework in their chosen concentration of study. Courses that are required within a particular concentration or used as electives within the concentration cannot simultaneously be used to fulfill major course requirements. The concentrations are designed to provide students with the opportunity to pursue more extensive study in the communication context most relevant to their professional and social goals.

Students majoring in Communication Studies may pursue careers in areas such as public relations, marketing, personnel, nonprofit organization, social media management, and health administration. Coupled with another social science major, Communication Studies provides extra capital for careers in areas such as social work, counseling, politics, and management. This major is also excellent preparation for law school, usually combined with a concentration in Rhetoric, Culture, and Social Change, a second major in Political Science, and a minor in Legal Studies. The program also offers a minor in Communication Studies and a minor in Journalism.

### Graduate Program

Students can pursue graduate work in Communication Studies. For details, see the *UNC Charlotte Graduate Catalog* regarding the M.A. in Communication Studies program.

## Bachelor of Arts in Communication Studies

Students may complete the B.A. in Communication Studies without selecting a concentration or, if desired, complete a concentration in one of five areas of study as part of the B.A. in Communication Studies degree:

- Health Communication
- Media & Technology Studies
- Organizational Communication
- Public Relations
- Rhetoric, Culture, and Social Change

The concentration is optional. Courses taken for a concentration will not add to the total number of credit hours required for the major, but will count toward the elective hours already required for the major.

### Admission Requirements

**Freshmen and Transfers**

- See University Admission Requirements
- Minimum GPA: 2.0
- Transferable Credit Hours: 24

**Currently Enrolled Students**

- Overall GPA of at least 2.0

### Degree Requirements

The program leading to the Bachelor of Arts degree in Communication Studies requires 120 credit hours. In addition to the requirements for the Communication Studies major (21 credit hours), students must also complete 18 credit hours of Restricted Electives.

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Foreign Language Requirement (0-8 credit hours)**

For details, refer to the College of Liberal Arts and Sciences Foreign Language Requirement.

**Communication Studies Courses (21 credit hours)**

The Communication Studies Core Courses are designed to provide a thorough understanding of fundamental communication processes and are structured into two categories:

*General Theory/Skills Courses (15 credit hours)*
COMM 1101 - Public Speaking (3)
COMM 2100 - Introduction to Communication Theory (3)
COMM 2101 - Introduction to Rhetorical Theory (3)
COMM 2104 - Communication Studies Foundations (3)
COMM 3101 - Persuasion (3)

*Research Methodology Courses (6 credit hours)*
COMM 3100 - Communication Research Methods (3)
STAT 1222 - Introduction to Statistics (3)

**Restricted Electives (18 credit hours)**
Students must complete 18 credit hours of Restricted Electives taken at the 2000 level and above. At least 9 credit hours must be completed in COMM courses, with at least 6 of those hours at the 3000 level and above. The remaining 9 credit hours may be completed in COMM or JOUR courses. No more than 9 credit hours of 2000 level courses may be counted towards the Restricted Electives requirement. Minors in Journalism may only count 6 credit hours towards both the Communication Studies major and the Journalism minor.

COMM 2xxx-3xxx Communication Studies Elective
COMM 3xxx-4xxx Communication Studies Elective
COMM 3xxx-4xxx Communication Studies Elective
COMM 2xxx-4xxx Communication Studies Elective
or JOUR 2xxx-4xxx Journalism Elective
COMM 2xxx-4xxx Communication Studies Elective
or JOUR 2xxx-4xxx Journalism Elective
COMM 3xxx-4xxx Communication Studies Elective
or JOUR 3xxx-4xxx Journalism Elective

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Progression Requirements
Students must earn a grade of C or better in COMM 1101, COMM 2100, COMM 2104 and STAT 1222, and a 2.0 GPA overall in their major courses.

## Honors Program
For details about the Honors Program in Communications, visit the program page.

## Degree Total = 120 Credit Hours

# Bachelor of Arts in Communication Studies *with Concentration in Rhetoric, Culture, and Social Change*
The Rhetoric, Culture, and Social Change concentration is designed for those students desiring a well-developed background in the use, theory, construction, and analysis of public messages. The course of study provides training in individual public communication skills and provides a foundation for the analysis and evaluation of advocacy discourse.

## Admission Requirements
**Freshmen and Transfers**
- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Transferable Credit Hours*: 24

**Currently Enrolled Students**
- Overall GPA of at least 2.0.

## Degree Requirements
The program leading to the Bachelor of Arts degree in Communication Studies requires 120 credit hours. In addition to the requirements for the Communication Studies major, students may also complete coursework in a specific concentration of study, or electives as specified for those students who are completing the major without a concentration. Courses that are required within a particular concentration or used as electives within the concentration cannot simultaneously be used to fulfill Major Course requirements. The concentrations are designed to provide students with the opportunity to pursue more extensive study in the communication context most relevant to their professional and social goals.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Foreign Language Requirement (0-8 credit hours)**
For details, refer to the College of Liberal Arts and Sciences Foreign Language Requirement.

**Communication Studies Courses (21 credit hours)**
The Communication Studies Core Courses are designed to provide a thorough understanding of fundamental communication processes and are structured into two categories:

*General Theory/Skills Courses (15 credit hours)*
COMM 1101 - Public Speaking (3)
COMM 2100 - Introduction to Communication Theory (3)
COMM 2101 - Introduction to Rhetorical Theory (3)
COMM 2104 - Communication Studies Foundations (3)
COMM 3101 - Persuasion (3)

*Research Methodology Courses (6 credit hours)*
COMM 3100 - Communication Research Methods (3)
STAT 1222 - Introduction to Statistics (3)

**Concentration Courses (18 credit hours)**

***Required Concentration Courses (9 credit hours)***

COMM 2102 - Advanced Public Speaking (3)
or COMM 2103 - Argumentation and Debate (3)
COMM 3053 - Topics in Rhetoric, Culture, and Social Change (3)
or COMM 3110 - Gender and Communication (3)
or COMM 3131 - Black Culture and Communication (3)
COMM 3130 - Rhetoric and Public Culture (3)

***Elective Concentration Courses (9 credit hours)***

*Select from the following:*

AFRS 2215 - Black Families in the United States (3)
AFRS 3150 - The African American Church and Civil Rights (3)
AFRS 3179 - African American Political Philosophy (3)
AFRS 3218 - Racial Violence, Colonial Times to Present (3)
COMM 2102 - Advanced Public Speaking (3)***
COMM 2103 - Argumentation and Debate (3)***
COMM 3051 - Topics in Health Communication (3)
COMM 3052 - Topics in Media & Technology Studies (3)
COMM 3053 - Topics in Rhetoric, Culture and Social Change (3)
COMM 3054 - Topics in Organizational Communication (3)
COMM 3055 - Topics in Public Relations (3)
COMM 3115 - Health Communication (3)
COMM 3125 - New Media in Communications (3)
COMM 3126 - Globalization and Digital Media (3)
COMM 3131 - Black Culture and Communication (3)
COMM 3403 - Forensics Practicum (2)**
COMM 3880 - Independent Study (1 to 3)*
COMM 4410 - Professional Internship (3 or 6)*
GLST 2100 - Introduction to Holocaust, Genocide, and Human Rights Studies (3)
GLST 2131 - Introduction to Peace and Conflict Studies (3)
GLST 3117 - Narratives and Conflicts (3)
GLST 3132 - Peacebuilding in Divided Societies (3)
GLST 3137 - International Human Rights (3)
PHIL 2100 - Critical Thinking in Philosophy (3)
PHIL 3231 - Aesthetics (3)
PHIL 3251 - Advanced Logic (3)
PHIL 3261 - Feminist Philosophy (3)
PHIL 3262 - Philosophy and Race (3)
PHIL 3271 - Social and Political Philosophy (3)
POLS 3103 - Public Opinion (3)
POLS 3104 - Mass Media (3)
POLS 3105 - Voting and Elections (3)
POLS 3108 - Social Movements and Interest Groups (3)
POLS 3109 - Political Parties (3)
POLS 3115 - Civil Rights and Liberties (3)
POLS 3117 - Gender and the Law (3)
POLS 3163 - Introduction to Model United Nations (3)
POLS 4110 - North Carolina Student Legislature (3)
PSYC 2350 - Introduction to Social Psychology (3)
PSYC 3356 - Psychology of Women and Gender (3)
PSYC 3357 - Introduction to Community Psychology (3)
RELS 3225 - Religion and Race (3)
RELS 3230 - Race, Religion, and Murder (3)
RELS 4101 - The Other Cheek: From Christian Disdain to the Organized Destruction of Europe Jews (3)
SOCY 2112 - Popular Culture (3)
SOCY 2163 - Sociology of Gender (3)
SOCY 2171 - Social Problems (3)
SOCY 3110 - American Minority Groups (3)
SOCY 3143 - Social Movements (3)
SOCY 3250 - Political Sociology (3)
SOCY 4111 - Social Inequality (3)
SOCY 4121 - Globalization and Development (3)
COMM 2xxx – 4xxx Communication Studies Elective (3)
COMM 3xxx – 4xxx Communication Studies Elective (3)
COMM 3xxx – 4xxx Communication Studies Elective (3)

** Requires approval of advisor.*
***May be repeated but no more than 3 credit hours will apply to meeting this elective requirement.*
****May not be used to satisfy both the required concentration course and the elective concentration course.*

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Progression Requirements

Students must earn a grade of C or better in COMM 1101, COMM 2100, COMM 2104 and STAT 1222, and a 2.0 GPA overall in their major courses.

## Honors Program

For details about the Honors Program in Communications, visit the program page.

## Degree Total = 120 Credit Hours

# Bachelor of Arts in Communication Studies *with Concentration in Health Communication*

The Health Communication concentration examines the role of communication in understanding, promoting, and maintaining health. Emphasis is placed on the social construction of health, structural and social determinants of health, patient-provider communication, communication in healthcare organizations, interpersonal and family communication about health, mental health, gender, spirituality, disability, and aging.

## Admission Requirements

**Freshmen and Transfers**

- See University Admission Requirements
- Minimum GPA: 2.0
- Transferable Credit Hours: 24

**Currently Enrolled Students**

- Overall GPA of at least 2.0

## Degree Requirements

The program leading to the Bachelor of Arts degree in Communication Studies requires 120 credit hours. In addition to the requirements for the Communication Studies major, students may also complete coursework

in a specific concentration of study, or electives as specified for those students who are completing the major without a concentration. Courses that are required within a particular concentration or used as electives within the concentration cannot simultaneously be used to fulfill Major Course requirements. The concentrations are designed to provide students with the opportunity to pursue more extensive study in the communication context most relevant to their professional and social goals.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Foreign Language Requirement (0-8 credit hours)**
For details, refer to the College of Liberal Arts and Sciences Foreign Language Requirement.

**Communication Studies Core Courses (21 credit hours)**
The Communication Studies Core Courses are designed to provide a thorough understanding of fundamental communication processes and are structured into two categories:

***General Theory/Skills Courses (15 credit hours)***
COMM 1101 - Public Speaking (3)
COMM 2100 - Introduction to Communication Theory (3)
COMM 2101 - Introduction to Rhetorical Theory (3)
COMM 2104 - Communication Studies Foundations (3)
COMM 3101 - Persuasion (3)

***Research Methodology Courses (6 credit hours)***
COMM 3100 - Communication Research Methods (3)
STAT 1222 - Introduction to Statistics (3)

**Concentration Courses (18 credit hours)**
***Required Concentration Courses (12 credit hours)***
COMM 3051 - Topics in Health Communication (3)
COMM 3115 - Health Communication (3)
COMM 4410 - Professional Internship (3 or 6)
COMM 4615 - Seminar in Health Communication (3)

***Elective Concentration Courses (6 credit hours)***
*Select from the following:*
AFRS 2170 - Introduction to Health and Environmental Issues in the Africana World (3)
AFRS 2172 - Black Sexuality and Health (3)
AFRS 3250 - African Americans and Health Communication (3)
AFRS 3261 - Psychology of the Black Experience (3)
AFRS 4630 - Environmental and Public Health in Africa (3)
AFRS 4652 - Race, Health, and the African Diaspora (3)
ANTH 3124 - Food, Nutrition, and Culture (3)
ANTH 2127 - Environmental Anthropology (3)
ANTH 2141 - Our Place in Nature: Introduction to Biological Anthropology (4)
ANTH 3020 - Topics in Cultural Anthropology (3) *
ANTH 3090 - Topics in Anthropology (1 to 3) *
ANTH 3125 - Food and Globalization (3)
ANTH 3143 - Race and Anthropology (3)
ANTH 3145 - Anthropological Genetics (3)
ANTH 3222 - Culture, Health, and Disease (3)
ANTH 4020 - Topics in Cultural Anthropology (3) *
ANTH 4090 - Topics in Anthropology (1 to 3) *
CJUS 3366 - Domestic Violence (3)
CJUS 4350 - Victims and the Criminal Justice System (3)
CJUS 4351 - Violence and the Violent Offender (3)
CJUS 4360 - Drugs, Crime, and the Criminal Justice System (3)
CJUS 4363 - Gender, Race, and Justice (3)
CJUS 4372 - Drug Analytics (3)
COMM 3051 - Topics in Health Communication (3)
COMM 4410 - Professional Internship (3 or 6) *
EXER 3260 - Nutrition for the Physically Active (3)
GRNT 3115 - Health and the Aging Process (3)
or HLTH 3115 - Health and the Aging Process (3)
GRNT 3125 - Older Worker and Retirement (3)
or SOCY 3125 - Older Worker and Retirement (3)
GRNT 3267 - Sociology of Dying, Death, and Bereavement (3)
or SOCY 3267 - Sociology of Dying, Death, and Bereavement (3)
GRNT 4260 - Women: Middle Age and Beyond (3)
or HLTH 4260 - Women: Middle Age and Beyond (3)
or WGST 4260 - Women: Middle Age and Beyond (3)
HHUM 3020 - Topics in Health & Medical Humanities (3)
HHUM 3030 - Health & Medical Humanities Study Abroad (3)
HIST 2140 - Disease and Medicine in History (3)
HIST 2170 - Latino/as in the United States, 1846 to Present (3)
HIST 3155 - Health and Healing in Africa (3)
or AFRS 3155 - Health and Healing in Africa (3)
HLTH 2101 - Healthy Lifestyles (3)
NURS 4000 - Topics in Nursing (1 to 3) *
PHIL 2220 - Healthcare Ethics (3)
PHIL 3273 - Philosophy and the Body (3)
PSYC 2350 - Introduction to Social Psychology (3)
PSYC 2360 - Introduction to Health Psychology (3)
RELS 3300 - Religion and Healing (3)
SOCY 2169 - Sociology of Health and Illness (3)
SOCY 4168 - Sociology of Mental Health and Illness (3)
SPAN 3222 - Spanish for Medical and Healthcare (3)
SPAN 4050 - Selected Topics in Spanish (1 to 3)
COMM 2xxx-4xxx Communication Studies Elective

**Requires advisor approval.*

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Progression Requirements
Students must earn a grade of C or better in COMM 1101, COMM 2100, COMM 2104 and STAT 1222, and a 2.0 GPA overall in their major courses.

## Honors Program
For details about the Honors Program in Communications, visit the program page.

## Degree Total = 120 Credit Hours

# Bachelor of Arts in Communication Studies
## *with Concentration in Media & Technology Studies*

The Media & Technology Studies concentration is designed for students interested in the development and critical analysis of different forms of media and technologies as a social, cultural, political and economic force. Contemporary issues explored may include: technologies in the urban context, privacy and surveillance, media and mobility, data and society, digital identity, digital health & culture, digital feminism, political economy of media, media law, media policy, media ethics, global media. Throughout these courses, students develop skills in critical engagement with media as well as some experiences of multimodal writing and production.

### Admission Requirements

**Freshmen and Transfers**

- See University Admission Requirements
- Minimum GPA: 2.0
- Transferable Credit Hours: 24

**Currently Enrolled Students**

- Overall GPA of at least 2.0

### Degree Requirements

The program leading to the Bachelor of Arts degree in Communication Studies requires 120 credit hours. In addition to the requirements for the Communication Studies major, students may also complete coursework in a specific concentration of study, or electives as specified for those students who are completing the major without a concentration. Courses that are required within a particular concentration or used as electives within the concentration cannot simultaneously be used to fulfill Major Course requirements. The concentrations are designed to provide students with the opportunity to pursue more extensive study in the communication context most relevant to their professional and social goals.

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Foreign Language Requirement (0-8 credit hours)**

For details, refer to the College of Liberal Arts and Sciences Foreign Language Requirement.

**Communication Studies Core Courses (21 credit hours)**

The Communication Studies Core Courses are designed to provide a thorough understanding of fundamental communication processes and are structured into two categories:

***General Theory/Skills Courses (15 credit hours)***

COMM 1101 - Public Speaking (3)
COMM 2100 - Introduction to Communication Theory (3)
COMM 2101 - Introduction to Rhetorical Theory (3)
COMM 2104 - Communication Studies Foundations (3)
COMM 3101 - Persuasion (3)

***Research Methodology Courses (6 credit hours)***

COMM 3100 - Communication Research Methods (3)
STAT 1222 - Introduction to Statistics (3)

**Concentration Courses (18 credit hours)**

***Required Concentration Courses (9 credit hours)***

COMM 3120 - Media, Technology & Communication (3)
COMM 3052 - Topics in Media & Technology Studies (3)
COMM 4652 - Advanced Seminar in Media & Technology Studies (3)

***Elective Concentration Courses (9 credit hours)***

*Select from the following:*

AMST 3090 - Topics in American Film (3)
COMM 2120 - Black Images in the Media in the U.S. (3)
COMM 3052 - Topics in Media & Technology Studies (3)
COMM 3121 - Mass Communication and Society (3)
COMM 3125 - New Media for Communications (3)
COMM 3126 - Globalization and Digital Media (3)
COMM 3880 - Independent Study (1 to 3)*
COMM 4410 - Professional Internship (3 or 6)*
ENGL 2106 - Film Criticism (4)
ENGL 4267 - Language and Culture in Digital Spaces (3)
FILM 3050 - Topics in Film Theory, Culture, and History (3)
FILM 3051 - Topics in Film Production (3)
JAPN 3060 - Topics in Japanese Film (3)
JOUR 2160 - Introduction to Journalism (3)
JOUR 3160 - Advanced News Reporting and Writing (3)
JOUR 3161 - News Editing (3)
POLS 3128 - Politics and Film (3)
RELS 3210 - Religion and Popular Culture (3)
RELS 3212 - Religion, Media, and Film (3)

**Requires advisor approval.*

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Progression Requirements

Students must earn a grade of C or better in COMM 1101, COMM 2100, COMM 2104 and STAT 1222, and a 2.0 GPA overall in their major courses.

### Honors Program

For details about the Honors Program in Communications, visit the program page.

### Degree Total = 120 Credit Hours

# Bachelor of Arts in Communication Studies *with Concentration in Organizational Communication*

The Organizational Communication concentration is designed for students whose careers will benefit from an understanding of the communication processes that occur within organizational contexts. Students explore both the theory and practice of organizational communication.

## Admission Requirements

**Freshmen and Transfers**

- See University Admission Requirements
- Minimum GPA: 2.0
- Transferable Credit Hours: 24

**Currently Enrolled Students**

- Overall GPA of at least 2.0

## Degree Requirements

The program leading to the Bachelor of Arts degree in Communication Studies requires 120 credit hours. In addition to the requirements for the Communication Studies major, students may also complete coursework in a specific concentration of study, or electives as specified for those students who are completing the major without a concentration. Courses that are required within a particular concentration or used as electives within the concentration cannot simultaneously be used to fulfill Major Course requirements. The concentrations are designed to provide students with the opportunity to pursue more extensive study in the communication context most relevant to their professional and social goals.

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Foreign Language Requirement (0-8 credit hours)**

For details, refer to the College of Liberal Arts and Sciences Foreign Language Requirement.

**Communication Studies Core Courses (21 credit hours)**

The Communication Studies Core Courses are designed to provide a thorough understanding of fundamental communication processes and are structured into two categories:

***General Theory/Skills Courses (15 credit hours)***

COMM 1101 - Public Speaking (3)
COMM 2100 - Introduction to Communication Theory (3)
COMM 2101 - Introduction to Rhetorical Theory (3)
COMM 2104 - Communication Studies Foundations (3)
COMM 3101 - Persuasion (3)

***Research Methodology Courses (6 credit hours)***

COMM 3100 - Communication Research Methods (3)
STAT 1222 - Introduction to Statistics (3)

**Concentration Courses (18 credit hours)**

***Required Concentration Courses (15 credit hours)***

COMM 2105 - Small Group Communication (3)
COMM 3141 - Organizational Communication (3)
COMM 3142 - Applications in Organizational Communication (3)
COMM 4141 - Advanced Organizational Communication (3)
COMM 4410 - Professional Internship (3 or 6)

***Elective Concentration Courses (3 credit hours)***

COMM 3xxx-4xxx Communication Studies Elective

**Requires advisor approval.*

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Progression Requirements

Students must earn a grade of C or better in COMM 1101, COMM 2100, COMM 2104 and STAT 1222, and a 2.0 GPA overall in their major courses.

## Honors Program

For details about the Honors Program in Communications, visit the program page.

## Degree Total = 120 Credit Hours

# Bachelor of Arts in Communication Studies *with Concentration in Public Relations*

The Public Relations concentration is designed to provide students with a general background in public relations as a professional practice. Students examine both the theory and application of public relations.

## Admission Requirements

**Freshmen and Transfers**

- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Transferable Credit Hours*: 24

**Currently Enrolled Students**

- Overall GPA of at least 2.0.

## Degree Requirements

The program leading to the Bachelor of Arts degree in Communication Studies requires 120 credit hours. In addition to the requirements for the Communication Studies major, students may also complete coursework in a specific concentration of study, or electives as specified for those students who are completing the major without a concentration. Courses that are required within a particular concentration or used as electives within the concentration cannot simultaneously be used to fulfill Major Course requirements. The concentrations are designed to provide students with the opportunity to pursue more extensive study in the communication context most relevant to their professional and social goals.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Foreign Language Requirement (0-8 credit hours)**
For details, refer to the College of Liberal Arts and Sciences Foreign Language Requirement.

**Communication Studies Core Courses (21 credit hours)**
The Communication Studies Core Courses are designed to provide a thorough understanding of fundamental communication processes and are structured into two categories:

***General Theory/Skills Courses (15 credit hours)***
COMM 1101 - Public Speaking (3)
COMM 2100 - Introduction to Communication Theory (3)
COMM 2101 - Introduction to Rhetorical Theory (3)
COMM 2104 - Communication Studies Foundations (3)
COMM 3101 - Persuasion (3)

***Research Methodology Courses (6 credit hours)***
COMM 3100 - Communication Research Methods (3)
STAT 1222 - Introduction to Statistics (3)

**Concentration Courses (18 credit hours)**
***Required Concentration Courses (15 credit hours)***
JOUR 2160 - Introduction to Journalism (3)
COMM 2145 - Principles of Public Relations (3)
COMM 2146 - Public Relations Ethics (3)
COMM 3245 - Public Relations Writing (3)
COMM 4145 - Communication Campaigns (3)

***Required Internship (3 credit hours)***
*Select one of the following:*
COMM 4410 - Professional Internship (3 or 6) *(for the standard Public Relations major)*
COMM 4445 - International Professional Internship (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Progression Requirements

Students must earn a grade of C or better in COMM 1101, COMM 2100, COMM 2104 and STAT 1222, and a 2.0 GPA overall in their major courses.

## Honors Program

For details about the Honors Program in Communications, visit the program page.

## Degree Total = 120 Credit Hours

# Honors Program in Communication Studies

The B.A. in Communication Studies with Communication Studies Honors is the highest distinction the Department of Communication Studies offers. Earning this accolade from the Honors College attests to a candidate's exemplary grade point average in their major, completion of honors coursework, and successful defense of a distinguished undergraduate honors thesis. Graduating with Honors in Communication Studies prepares students for graduate school and is a wonderful addition to a student's resume.

The Honors Program in the Department of Communication Studies aims to identify, encourage, nurture, and recognize students with exceptional analytical, creative, and communicative skills potential. The program stresses guided but self-directed independent study, and each Honors Student will be evaluated by a faculty committee based upon uniquely developed criteria for each Honors Student.

## Admission Requirements

**Current UNC Charlotte Undergraduate**

- See University Admission Requirements
- Petition for admission to the Honors Program may be initiated by the student or by a full-time faculty member of the Department of Communication Studies on behalf of the student. Students must have at minimum a 3.3 or above overall GPA and a 3.3 or above GPA in all Communication Studies and Journalism courses. They must have completed at least 30 credit hours at UNC Charlotte but not more than 90 credit hours at the time participation in the Honors Program will begin. Admission to the Communication Studies Honors Program is determined through a three step process: completion and submission of the Honors Program application form, review of the application by the Honors Director and Department Honors Committee, and approval for admission by that Committee.

## Course Requirements
COMM 3790 - Honors Thesis I (3)
COMM 3791 - Honors Thesis II (3)
HONR 3700 - Honors College Topics (3)

## Progression Requirements
To graduate with honors, students must:

- Earn a minimum cumulative GPA of 3.3
- Earn a minimum GPA of 3.3 in Communication Studies and Journalism courses
- Complete HONR 3700 Honors College Topics
- Complete an honors thesis and present the results of the project in an appropriate forum
- Complete the Application to Candidacy process for graduating with honors, as directed by the Honors College

The honors notation will appear on a student's official transcript.

# Bachelor of Arts in Writing, Rhetoric, and Digital Studies
Using print and digital technologies to create, design, and produce texts now requires new ways of thinking about writing as a concept and practice. As an interdisciplinary examination and application of rhetoric and writing technologies, the Major in Writing, Rhetoric, and Digital Studies prepares students to read, analyze, and compose across academic, workplace, and public spheres. Interactive courses improve reading, critical thinking, argumentation, narrative, and problem-solving abilities as students evaluate the implications of print, digital, and social media compositions in both local and global contexts. With these skills, students can navigate known, new, and emerging writing situations and media; they learn how to be flexible composers who can apply rhetorical strategies and digital skills to their current environments, as well as adapt emerging technologies to new contexts.

## Admission Requirements
- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

### Currently Enrolled Students
- *Declaration of Major:* Change of Major forms accepted year-round. Students must make an advising appointment during SOAR and when declaring the major.

## Degree Requirements
The program leading to the Bachelor of Arts degree in Writing, Rhetoric, and Digital Studies requires 120 credit hours. Students in the major must complete a minimum of 36 credit hours in Writing, Rhetoric, and Digital Studies (WRDS) courses, including 12 credit hours at the 4000-level.

### General Education (28-37 credit hours)
For details on required General Education courses, refer to the General Education Program.

### Foreign Language Course (0-8 credit hours)
For details on required courses, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirement.

### Foundation Course (3-4 credit hours)
*Select one of the following:*
WRDS 1103 - Writing and Inquiry in Academic Contexts I and II (3)
WRDS 1104 - Writing and Inquiry in Academic Contexts I and II with Studio (4)

### Major Courses (36 credit hours)
Majors must complete at least 36 credit hours in Writing, Rhetoric, and Digital Studies, including 12 credit hours at the 4000-level. The Major Courses are designed to provide a thorough understanding of fundamental Writing, Rhetoric, and Digital Studies principles and are structured into four categories:

#### *Core Courses (9 credit hours)*
WRDS 3220 - Current Theories and Applications of Writing (3)
WRDS 3211 - Online Writing: Ethics, Appropriation, and Social Media (3)
or WRDS 3215 - Information Literacy and Digital Composing (3)
WRDS 4400 - Writing, Rhetoric, and Digital Studies Internship Practicum (3)
or WRDS 4900 - Senior Research Capstone (3)

#### *Application of Writing and Rhetoric in Print and Digital Environments Courses (9 credit hours)*
*Select three of the following:*
ENGL 3180 - Language and Digital Technology (3)
ENGL 4168 - Multimodality and Text Description (3)
ENGL 4181 - Writing and Designing User Documents (3)
ENGL 4182 - Information Design and Digital Publishing (3)
ENGL 4183 - Editing with Digital Technologies (3)
WRDS 2101 - Advanced Writing: Research and Critical Analysis (3)
WRDS 3102 - The Effective Sentence: A Writing Course for All Majors (3)
WRDS 3140 - Arguing With Images (3)
WRDS 3210 - Foundations in Human-AI Writing: Prompting Partnerships (3)
WRDS 4011 - Topics in Writing Technologies (3)
WRDS 4210 - Contemporary Rhetorical Theory (3)

#### *Community and Culture Courses (9 credit hours)*

*Select three of the following:*
COMM 3050 - Topics in Communication Studies (1 to 3) (Topics: Gender/Culture and Communication)
COMM 3110 - Gender and Communication (3)
COMM 3126 - Globalization and Digital Media (3)
WRDS 4021 - Topics in Writing and Reading (3)
WRDS 4201 - Composing Across Borders: Transnational Digital Composition (3)
WRDS 4225 - Writing Research Methods (3)
WRDS 4330 - Reading, Writing, and Archiving: Charlotte (3)

***Major Elective Courses (9 credit hours)***
*Select three of the following:*
COMM 3050 - Topics in Communication Studies (1 to 3)
COMM 3110 - Gender and Communication (3)
COMM 3125 - New Media for Communications (3)
COMM 3126 - Globalization and Digital Media (3)
ENGL 3162 - Language and the Virtual World (3)
ENGL 3180 - Language and Digital Technology (3)
ENGL 4168 - Multimodality and Text Description (3)
ENGL 4181 - Writing and Designing User Documents (3)
ENGL 4182 - Information Design and Digital Publishing (3)
ENGL 4183 - Editing with Digital Technologies (3)
ITIS 3130 - Human-Centered Design (3)
ITIS 3200 - Introduction to Information Security and Privacy (3)
WRDS 2100 - Introduction to Digital Studies in Writing (3)
WRDS 3160 - AI in the Public Imagination (3)
WRDS 2xxx/3xxx - Writing, Rhetoric, and Digital Studies Elective (3) *(excluding courses already applied toward the major)*
WRDS 4xxx - Writing, Rhetoric, and Digital Studies Elective (3) *(excluding courses already applied toward the major)*

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

### Progression Requirements
Students must earn a grade of C or above in all required courses.

### Internship
Majors have the option to complete an internship as part of their degree requirements, and should see a Writing, Rhetoric, and Digital Studies advisor for details.

## Minor in Communication Studies
The Minor in Communication Studies consists of 18 credit hours of COMM courses.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
- See University Admission Requirements
- Students matriculated at UNC Charlotte and planning to declare Communication Studies as their minor must have an overall GPA of at least 2.0.

### Minor Requirements
**Required Courses (6 credit hours)**
COMM 1101 - Public Speaking (3)
COMM 2100 - Introduction to Communication Theory (3)

**Elective Courses (12 credit hours)**
COMM 1xxx-4xxx - Communication Studies Elective (3)
COMM 1xxx-4xxx - Communication Studies Elective (3)
COMM 3xxx-4xxx - Communication Studies Elective (3)
COMM 3xxx-4xxx - Communication Studies Elective (3)

### Progression Requirements
Students must attain an overall GPA of 2.0 in all coursework within the minor.

### Minor Total = 18 Credit Hours

## Minor in Journalism
The Minor in Journalism provides an introduction to journalism areas such as writing, editing, feature writing, and related communication and media issues. The minor consists of 18 credit hours of coursework.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

### Minor Requirements
**Required Courses (12 credit hours)**
JOUR 2160 - Introduction to Journalism (3)
JOUR 3160 - Advanced News Reporting and Writing (3)
JOUR 3162 - Feature Writing (3)
JOUR 3050 - Topics in Journalism (3)
or JOUR 4410 - Professional Internship (3 or 6)

**Elective Courses (6 credit hours)**
*Select from the following:*
ENGL 4204 - Expository Writing (3)
ENGL 4182 - Information Design and Digital Publishing (3)
JOUR 3050 - Topics in Journalism (3)
JOUR 3161 - News Editing (3)
JOUR 3163 - Visual Communication in the Media (3)
JOUR 3401 - Journalism Practicum (2)
JOUR 4410 - Professional Internship (3)*
ARTT 2191 - Photographic Media I (3)
COMM 2120 - Black Images in the Media in the U.S. (3)
COMM 3120 - Media, Technology & Communication (3)
COMM 3880 - Independent Study (1 to 3)*
POLS 3103 - Public Opinion (3)
POLS 3104 - Mass Media (3)

**with approval of advisor*

### Special Policies or Requirements
With their advisor's approval, students in the Communication Studies major may count as related coursework any course used to fulfill requirements for the Minor in Journalism as long as that course is not simultaneously being used to fulfill either core or concentration requirements of the major.

### Minor Total = 18 Credit Hours

## Minor in Writing, Rhetoric, and Digital Studies
Using print and digital technologies to create, design, and produce texts now requires new ways of thinking about writing as a concept and practice. As an interdisciplinary examination and application of rhetoric and writing technologies, the Minor in Writing, Rhetoric, and Digital Studies prepares students to read, analyze, and compose. These skills serve across academic, workplace, and public spheres. The interactive courses are designed to improve reading, critical thinking, argumentation, narrative, and problem-solving abilities. Students learn to evaluate the implications of print, digital, and social media compositions in both local and global contexts. As a result, students are able to navigate known, new, and emerging writing situations and media. Students learn how to be flexible composers who can apply rhetorical strategies and digital skills to their current environments, as well as adapt emerging technologies to new contexts.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
- See University Admission Requirements
- Students matriculated at UNC Charlotte and planning to declare Writing, Rhetoric, and Digital Studies as their minor must have an overall GPA of at least 2.0.

### Minor Requirements
**Required Courses (9 credit hours)**
WRDS 2101 - Advanced Writing: Research and Critical Analysis (3)
or WRDS 3102 - The Effective Sentence: A Writing Course for All Majors (3)
WRDS 3211 - Online Writing: Ethics, Appropriation, and Social Media (3)
or WRDS 3215 - Information Literacy and Digital Composing (3)
WRDS 4201 - Composing Across Borders: Transnational Digital Composition (3)

**Elective Courses (9 credit hours)**
*Select three of the following not already taken in the Required Courses section above:*

COMM 3050 - Topics in Communication Studies (1 to 3) (Topic: Gender/Culture in Communication)
COMM 3110 - Gender and Communication (3)
COMM 3125 - New Media for Communications (3)
COMM 3126 - Globalization and Digital Media (3)
ENGL 3162 - Language and the Virtual World (3)
ENGL 3180 - Language and Digital Technology (3)
ENGL 4168 - Multimodality and Text Description (3)
ENGL 4181 - Writing and Designing User Documents (3)
ENGL 4182 - Information Design and Digital Publishing (3)
ENGL 4183 - Editing with Digital Technologies (3)
WRDS 2100 - Introduction to Digital Studies in Writing (3)
WRDS 3102 - The Effective Sentence: A Writing Course for All Majors (3)
WRDS 3140 - Arguing With Images (3)
WRDS 3160 - AI in the Public Imagination (3)
WRDS 3210 - Foundations in Human-AI Writing: Prompting Partnerships (3)
WRDS 3211 - Online Writing: Ethics, Appropriation, and Social Media (3)
WRDS 3215 - Information Literacy and Digital Composing (3)
WRDS 3220 - Current Theories and Applications of Writing (3)
WRDS 4011 - Topics in Writing Technologies (3)
WRDS 4021 - Topics in Writing and Reading (3)
WRDS 4210 - Contemporary Rhetorical Theory (3)
WRDS 4330 - Reading, Writing, and Archiving: Charlotte (3)

### Minor Total = 18 Credit Hours

### Progression Requirements
An overall GPA of 2.0 in all coursework within the minor is required.

## Undergraduate Certificate in Leadership Studies
Students electing the Certificate in Leadership Studies may be enrolled in any undergraduate major. In addition to completing the standard core and required track courses for their majors, students must complete 18 credit hours of coursework as listed:

**Required Courses (9 credit hours)**
COMM 3135 - Leadership Theory and Group Dynamics (3)

COMM 3136 - Leadership, Service and Ethics (3)
COMM 4410 - Professional Internship (3 or 6)

**Ethics Courses (3 credit hours)**
*One course from the following:*
POLS 3175 - Philosophy of Law (3)
PHIL 3221 - Ethical Theory (3)

**Elective Courses (6 credit hours)**
AERO 3101 - Leadership and Management (3)
AERO 3102 - Defense Administration and Military Management (3)
COMM 2105 - Small Group Communication (3)
COMM 2107 - Interpersonal Communication (3)
KNES 1231 - Introduction to Outdoor Adventure (2)
KNES 2236 - Challenge Course Activities (2)
KNES 3230 - Wilderness Trip Leading (3)
KNES 3235 - Challenge Course Facilitation (3)
MGMT 3140 - Management and Organizational Behavior (3)
MGMT 3287 - Managerial Leadership (3)
PSYC 2320 - Introduction to Industrial/Organizational Psychology (3)
POLS 3112 - The Presidency (3)
POLS 4110 - North Carolina Student Legislature (3)

### Certificate Total = 18 Credit Hours

## Early Entry: Master of Arts in Communication Studies

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

### Progression Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 6 hours of graduate credit before they have completed their baccalaureate degree.

### Special Policies or Requirements

Up to 6 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 6 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# Department of Criminal Justice and Criminology

criminaljustice.charlotte.edu

## Undergraduate Programs

- B.A. in Criminal Justice
  - Honors Program
- Minor in Crime Analytics
- Minor in Criminal Justice
- Early Entry: M.S. in Criminal Justice
- Early Entry: Graduate Certificate in Crime Analysis

The undergraduate program in Criminal Justice and Criminology addresses issues confronting the entire criminal justice system, from the nature of crime and delinquency, to society's varied responses to it. A Major in Criminal Justice provides a broad educational background emphasizing social science and qualitative/quantitative research skills to develop and critique basic knowledge regarding crime and social control. Students at UNC Charlotte learn about crime as a social problem, develop a critical understanding of the criminal justice system, and study the principles involved in achieving planned change.

Students majoring in Criminal Justice may pursue careers in areas within the justice system including, but not limited to, law enforcement, courts, and corrections. Subsequent to graduation, several students pursue master's and doctoral degrees in criminal justice creating opportunities for them to engage in teaching and research careers. This major is also excellent preparation for law school as many students combine their academic work with a second Major in Political Science and/or a Minor in Legal Studies.

The department also offers a Minor in Criminal Justice, Minor in Crime Analytics, and a Master of Science degree program in Criminal Justice. Please see the *UNC Charlotte Graduate Catalog* for details on the M.S. degree.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

## Bachelor of Arts in Criminal Justice

Undergraduate students pursuing the academic study of the criminal justice system, a career in the criminal justice field, or preparation for graduate study may select the criminal justice curriculum leading to a Bachelor of Arts degree.

### Admission Requirements

**Incoming Freshmen**

- See University Admission Requirements

**Transfers**

- See University Admission Requirements
- Transfer students who have an A.A.S. degree in Criminal Justice or who have an A.A. degree receive General Education exemption and may be awarded up to 15 credit hours for criminal justice coursework completed with a grade of C or above. Transfer courses from four-year institutions or out-of-state community colleges will be evaluated on a case-by-case basis.

**Currently Enrolled Students**

- See University Admission Requirements
- *Minimum GPA:* 2.0
- Completion of CJUS 1511 with a grade of C or above, within two attempts
- *Declaration of Major*: See the Department of Criminal Justice website for specific instructions.

### Degree Requirements

A Major in Criminal Justice requires 40 credit hours of coursework.

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Foreign Language Requirement (0-8 credit hours)**

For details, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirements at the beginning of this section.

**Major Courses (40 credit hours)**

***Foundation Courses (10 credit hours)***

CJUS 1511 - Local Social Science: Foundations of Criminal Justice (3)
CJUS 1200 - Professionalism in Criminal Justice and Criminology (1)
CJUS 2340 - Criminological Theory (3)
CJUS 2370 - Research Methods in Criminal Justice (3)*

**Note: In lieu of CJUS 2370, students may also take one of the following options:*

POLS 2220 - Political Science Methods (4)
PSYC 2391 - Research Methodology I (3)
and PSYC 3292 - Research Methodology II (3)
PSYC 3291 - Critical Thinking About Research (3)
SOCY 3155 - Sociological Research Methods (4)

***Statistics Course (3 credit hours)***
*Select one of the following:*
STAT 1220 - Elements of Statistics I (BUSN) (3)
STAT 1221 - Elements of Statistics I (3)
STAT 1222 - Introduction to Statistics (3)

***Crime Analytics Course (3 credit hours)***
*Select one of the following:*
CJUS 4000 - Topics in Crime Analytics (3)
CJUS 4370 - Data Analytics and Crime (3)
CJUS 4371 - Criminal Data Sources, Data Management, and Cleaning (3)
CJUS 4372 - Drug Analytics (3)
CJUS 4373 - Intelligence Analysis and Security Analytics (3)
CJUS 4374 - Geospatial Analytics and Crime (3)
CJUS 4375 - Community-Oriented Policing, Problem-Solving, and Crime Analysis (3)
CJUS 4376 - Social Network Analysis (3)
CJUS 4377 - Crime Measurement and Data Visualization (3)
CJUS 4378 - Causes and Consequences of Crime (3)
CJUS 4379 - Qualitative Research and Analysis in Criminal Justice (3)

***Intercultural/Engagement Across Perspectives Course (3 credit hours)***
CJUS 4361 - International Criminal Justice (3)
CJUS 4363 - Gender, Race, and Justice (3)
CJUS 4365 - Criminal Justice and Social Diversity (3)
CJUS 4366 - Street Gangs (3)
CJUS 4367 - Hate Crimes (3)

***Major Elective Courses (21 credit hours)***
*Select seven of the following not already taken:*
CJUS 2320 - Introduction to Courts (3)
CJUS 2350 - Introduction to Corrections (3)
CJUS 2360 - Ethics and the Criminal Justice System (3)
CJUS 2361 - Juvenile Justice (3)
CJUS 2380 - Introduction to Law Enforcement (3)
CJUS 3000 - Topics in Criminal Justice (3)
CJUS 3320 - Criminal Justice and the Law (3)
CJUS 3321 - Criminal Procedure (3)
CJUS 3323 - Correctional Law (3)
CJUS 3340 - The Juvenile Offender (3)
CJUS 3341 - The Criminal Offender (3)
CJUS 3351 - Community Corrections (3)
CJUS 3352 - Institutional Corrections (3)
CJUS 3353 - Juvenile Corrections (3)
CJUS 3354 - Punishment and Freedom (3)
CJUS 3362 - Famous Criminal Trials of the Twentieth Century (3)
CJUS 3363 - Mediation and Conflict Resolution (3)
CJUS 3364 - The Administration of Criminal Justice (3)
CJUS 3365 - Interviewing in Criminal Justice (3)
CJUS 3366 - Domestic Violence (3)
CJUS 3367 - Problems and Decisions in Criminal Justice (3)
CJUS 3380 - Law Enforcement Behavioral Systems (3)
CJUS 3382 - Community-Oriented Policing and Problem-Solving (3)
CJUS 3400 - Criminal Justice Internship (3 to 6)
CJUS 3800 - Directed Individual Study (1 to 4)
CJUS 4320 - Evidence (3)
CJUS 4350 - Victims and the Criminal Justice System (3)
CJUS 4351 - Violence and the Violent Offender (3)
CJUS 4352 - Serial Murder (3)
CJUS 4360 - Drugs, Crime, and the Criminal Justice System (3)
CJUS 4361 - International Criminal Justice (3)
CJUS 4363 - Gender, Race, and Justice (3)
CJUS 4364 - Aging and Criminal Justice: An Interdisciplinary Understanding (3)
CJUS 4365 - Criminal Justice and Social Diversity (3)
CJUS 4366 - Street Gangs (3)
CJUS 4367 - Hate Crimes (3)
CJUS 4370 - Data Analytics and Crime (3)
CJUS 4371 - Criminal Data Sources, Data Management, and Cleaning (3)
CJUS 4372 - Drug Analytics (3)
CJUS 4373 - Intelligence Analysis and Security Analytics (3)
CJUS 4374 - Geospatial Analytics and Crime (3)
CJUS 4375 - Community-Oriented Policing, Problem-Solving, and Crime Analysis (3)
CJUS 4376 - Social Network Analysis (3)
CJUS 4377 - Crime Measurement and Data Visualization (3)
CJUS 4378 - Causes and Consequences of Crime (3)
CJUS 4379 - Qualitative Research and Analysis in Criminal Justice (3)
CJUS 4400 - Research Practicum (3)
CJUS 4700 - Honors Capstone in Criminal Justice I (3)
CJUS 4701 – Honors Capstone in Criminal Justice II (3)
SPAN 3221 - Spanish for Criminal Justice (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

### Progression Requirements
A GPA (overall and CJUS-specific) of 2.0 or above must be maintained for the major. A grade of C or above in CJUS 1511 and CJUS 2340 (each within two attempts*), and a grade of C or above in CJUS 1200 and CJUS 2370 (or approved equivalent), and a grade of C or above in an approved Statistics Course (STAT 1220, STAT 1221, or STAT 1222) are required to complete the major.

*Grades of D, F, and W all count as attempts.

### Internship
While not required, students are encouraged to participate in internship programs available through the department. Internships provide opportunities to combine theory and practice in a realistic setting, and to make more judicious career decisions.

## Honors Program in Criminal Justice
The Honors Program in Criminal Justice identifies the creative, imaginative, and/or exceptional student and encourages and recognizes the development of this student's potential. The Honors Program in Criminal Justice encourages independent study and shall evaluate each student's achievement in terms of her or his ability to proceed as a self-

directed learner.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Admission to program during Sophomore or Junior year
- Overall GPA of 3.2
- GPA of 3.5 in the Criminal Justice major

### Course Requirements

- CJUS 4700 and CJUS 4701 with application to candidacy completed the semester before
- 6 additional credit hours of honors coursework, either in HONR courses or in designated Honors sections

### Progression Requirements

A GPA (overall and CJUS-specific) of 2.0 or above must be maintained for the major. A grade of C or above in CJUS 1511 and CJUS 2340 (each within two attempts*), and a grade of C or above in CJUS 1200 and CJUS 2370 (or approved equivalent), and a grade of C or above in an approved Statistics Course (STAT 1220, STAT 1221, or STAT 1222) are required to complete the major.

*Grades of D, F, and W all count as attempts.

## Minor in Crime Analytics

The Crime Analytics minor provides students with an in-depth and deeper understanding of how data is used to address issues related to crime and the criminal justice system. This minor requires 21 credit hours.

All program-level Admissions and Progression Requirements are in addition to the University of North Carolina at Charlotte Admission Requirements.

### Admission Requirements

Students must have completed CJUS 1511 (Local Social Science: Foundations of Criminal Justice) with a grade of C or better within two attempts and must have an established GPA of 2.0 to declare the Crime Analytics Minor.

### Minor Requirements

**Core Courses (9 credit hours)**

Complete CJUS 1511, CJUS 2370 (or POLS 2220, or PSYC 2391 and PSYC 3292, or PSYC 3291, or SOCY 3155), and either STAT 1222 (or STAT 1220 or STAT 1221) before taking any Crime Analytics Electives.

CJUS 1511 - Local Social Science: Foundations of Criminal Justice (3)
CJUS 2370 - Research Methods in Criminal Justice (3)
or POLS 2220 - Political Science Methods (4)
or PSYC 2391 - Research Methodology I (3)
and PSYC 3292 - Research Methodology II (3)
or PSYC 3291 - Critical Thinking About Research (3)
or SOCY 3155 - Sociological Research Methods (4)
STAT 1220 - Elements of Statistics I (BUSN) (3)
or STAT 1221 - Elements of Statistics I (3)
or STAT 1222 - Introduction to Statistics (3)

**Crime Analytics Electives (12 credit hours)**

To complete the Crime Analytics minor, students will successfully complete four (4) of the Crime Analytics elective courses.

CJUS 4000 - Topics in Crime Analytics (3)
CJUS 4370 - Data Analytics and Crime (3)
CJUS 4371 - Criminal Data Sources, Data Management, and Cleaning (3)
CJUS 4372 - Drug Analytics (3)
CJUS 4373 - Intelligence Analysis and Security Analytics (3)
CJUS 4374 - Geospatial Analytics and Crime (3)
CJUS 4375 - Community-Oriented Policing, Problem-Solving, and Crime Analysis (3)
CJUS 4376 - Social Network Analysis (3)
CJUS 4377 - Crime Measurement and Data Visualization (3)
CJUS 4378 - Causes and Consequences of Crime (3)
CJUS 4379 - Qualitative Research and Analysis in Criminal Justice (3)

### Total = 21 Credit Hours

### Progression Requirements

Before taking any Crime Analytics electives, students must complete the following prerequisite courses: CJUS 1511 Local Social Science: Foundations of Criminal Justice with a grade of C or better in two or less attempts. They must also complete CJUS 2370 - Research Methods in Criminal Justice (or POLS 2220, or PSYC 2391 and PSYC 3292, or PSYC 3291, or SOCY 3155) with a grade of C or better, and STAT 1222 (or STAT 1220 , or STAT 1221) also with a grade of C or better. Once these courses have been successfully completed and students have at least 60 earned hours, they will select four (4) Crime Analytics courses from the list of electives.

## Minor in Criminal Justice

A Minor in Criminal Justice is available to all undergraduates except Criminal Justice majors, and requires 18 approved credit hours.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Minimum GPA (cumulative): 2.0
- Completion of CJUS 1511 with grade of C or above, with students allowed no more than two attempts at the class (grades of D, F or W count as attempts)
- Must have a declared major (cannot be Criminal Justice major)

### Minor Requirements

**Required Courses (6 credit hours)**

CJUS 1511 - Local Social Science: Foundations of Criminal Justice (3)
CJUS 2340 - Criminological Theory (3)

**Elective Courses (12 credit hours)**

*Select four of the following courses. At least 6 of the 12 elective credit hours must be completed at the 3000- or 4000-levels.*

CJUS 2320 - Introduction to Courts (3)
CJUS 2350 - Introduction to Corrections (3)
CJUS 2360 - Ethics and the Criminal Justice System (3)

CJUS 2361 - Juvenile Justice (3)
CJUS 2380 - Introduction to Law Enforcement (3)
CJUS 3000 - Topics in Criminal Justice (3)
CJUS 3320 - Criminal Justice and the Law (3)
CJUS 3321 - Criminal Procedure (3)
CJUS 3323 - Correctional Law (3)
CJUS 3340 - The Juvenile Offender (3)
CJUS 3341 - The Criminal Offender (3)
CJUS 3351 - Community Corrections (3)
CJUS 3352 - Institutional Corrections (3)
CJUS 3353 - Juvenile Corrections (3)
CJUS 3354 - Punishment and Freedom (3)
CJUS 3362 - Famous Criminal Trials of the Twentieth Century (3)
CJUS 3363 - Mediation and Conflict Resolution (3)
CJUS 3364 - The Administration of Criminal Justice (3)
CJUS 3365 - Interviewing in Criminal Justice (3)
CJUS 3366 - Domestic Violence (3)
CJUS 3367 - Problems and Decisions in Criminal Justice (3)
CJUS 3380 - Law Enforcement Behavioral Systems (3)
CJUS 3382 - Community-Oriented Policing and Problem-Solving (3)
CJUS 3800 - Directed Individual Study (1 to 4)
CJUS 4320 - Evidence (3)
CJUS 4350 - Victims and the Criminal Justice System (3)
CJUS 4351 - Violence and the Violent Offender (3)
CJUS 4352 - Serial Murder (3)
CJUS 4360 - Drugs, Crime, and the Criminal Justice System (3)
CJUS 4364 - Aging and Criminal Justice: An Interdisciplinary Understanding (3)
CJUS 4701 - Honors Capstone in Criminal Justice II (3)
SPAN 3221 - Spanish for Criminal Justice (3)

### Total = 18 Credit Hours

### Progression Requirements
A GPA (overall and CJUS-specific) of 2.0 or above must be maintained for the minor. A grade of C or above in CJUS 1511 and CJUS 2340 (each within two attempts*) is required to remain and progress in the minor.

*Grades of D, F, and W all count as attempts.

## Early Entry: Master of Science in Criminal Justice
Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Three letters of recommendation
- Completed online application at gradadmissions.charlotte.edu/apply

### Progression Requirements
- Maintain a minimum 3.0 overall undergraduate GPA

### Special Policies or Requirements
Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

## Early Entry: Graduate Certificate in Crime Analysis
Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.
All program-level Admissions and Progression Requirements are in addition to the University of North Carolina at Charlotte Admission Requirements.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Unofficial transcripts
- Statement of purpose
- Submit application online at mygradschool.uncc.edu and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

### Progression Requirements
- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree

### Special Policies or Requirements
Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate

coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the Graduate Catalog and the Graduate Admissions website (gradadmissions.charlotte.edu/admissions/early-entry).

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# Department of Earth, Environmental and Geographical Sciences

geoearth.charlotte.edu

## Undergraduate Programs

- B.S. in Earth and Environmental Sciences
  - Honors Program
- B.A. in Environmental Studies
  - Secondary Teaching
  - Honors Program
- B.A. in Geography
  - Comprehensive Social Studies Teacher Licensure
  - Honors Program
- B.S. in Geography
  - Honors Program
- B.S. in Geology
  - Honors Program
- B.S. in Meteorology
  - Honors Program
- Minor in Earth and Environmental Sciences
- Minor in Geography
- Minor in Geology
- Minor in Sustainability
- Minor in Urban Studies
- Early Entry: M.S. in Earth Science
- Early Entry: M.A. in Geography

The Department of Earth, Environmental, and Geographical Sciences is a cross-disciplinary unit offering different but related programs of study. Earth and Environmental Sciences include the study of the hydrosphere, atmosphere, biosphere, and surficial materials, and the influence of humans on those systems. Environmental Studies is concerned with the intersection of human activities and the environment with particular focus on policy and planning. Geography emphasizes the locational aspects of human activities as they are distributed over the Earth. Geology examines the composition, history, and structure of the whole Earth. Meteorology provides a rigorous study of the fundamental atmospheric processes that lead to weather and climate. A unique advantage of the department's interdisciplinary curriculum is that all five programs of study are inter-related in many ways. For example, a geography student interested in land use planning might gain important experience and knowledge from coursework in soil science or hydrology. An Earth and Environmental Sciences major might better understand soil formation and chemical weathering with courses in petrology and optical mineralogy. Emphasis in one area should not preclude class work or

interest in another. In fact, this type of interdisciplinary work is often critical to the student's program of study.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

### Facilities

The Department of Earth, Environmental, and Geographical Sciences is housed in the McEniry building. Supported Geography and Earth Science teaching and research activities include the areas of geographic information science and technology, urban and community planning, regional analysis, geography, hydrology, fluvial processes, hydrogeology, geochemistry, soils, petrology, mineralogy, sedimentology, geomorphology, structural geology, meteorology, and atmospheric science.

Numerous classrooms and laboratories are available for instructional and research purposes. An extensive collection of rock, mineral and fossil samples are available for use in teaching. Laboratory analytical capabilities present within the department include: ion chromatography, total carbon and nitrogen analysis, flow injection analysis, ICP-MS, atomic absorption spectroscopy, X-ray diffraction (XRD), laser particle size analysis, gas chromatography and water isotope analysis. Rock cutting and thin-sectioning equipment along with petrographic microscopes are available for studies in mineralogy and petrology. Field studies are supported with deployable equipment such as total stations, GPS, surface and groundwater sampling and monitoring devices, data loggers, soil boring equipment and ground penetrating radar. The Department has vans and a four-wheel drive truck available for transportation to field research sites and for class field trips.

The meteorology program includes a wide variety of resources for our students and faculty, including the meteorology computer lab (Linux with all standard packages, Matlab, and other analysis software), access to campus High Performance Computing resources, broadcast meteorology studio, rooftop weather station, additional weather stations for field deployment, a rooftop lightning sensor, weather balloon launch system, hand-held and laboratory-grade air quality monitoring equipment, hand-held Kestral weather monitors, solar flux monitors, and skew-T charts. Graduate and undergraduate researchers working with faculty enjoy a shared office space, and a conference room with touch-screen presentation display and video conferencing capability.

Students have access to four Departmental computer labs, three PC labs and one Linux lab, three of which have pay-for-print printers. The three PC labs contain geographic information system (GIS) and remote sensing software, including ArcGIS and ENVI software packages. These workstations are used to support courses in GIS, remote sensing and image processing, and spatial decision support systems, as well as other classes in the department. The Linux lab is used for our Meteorology classes and includes Matlab and other software.

# Earth and Environmental Sciences

## Bachelor of Science in Earth and Environmental Sciences

### Admission Requirements

#### Freshmen

- See University Admission Requirements
- *Minimum GPA:* n/a

#### Transfers

- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

#### Currently Enrolled Students

- *Declaration of Major:* Students may declare the major at any time before graduation.

### Degree Requirements

A Major in Earth and Environmental Sciences leading to a B.S. degree consists of a minimum of 70 credit hours of required and elective coursework. The B.S. Degree allows students to self-concentrate in areas of Hydrologic, Atmospheric, Geologic, or Environmental Sciences.

#### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

#### Foreign Language Requirement (0-8 credit hours)

For details on required courses, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirement.

#### Major Courses (26 credit hours)

ESCI 1101 - Earth Science-Geography - (3)
ESCI 1101L - Earth Science-Geography Lab (1)
ESCI 1501 - Global Social Science: Environment, Society, and Sustainability (3)
ESCI 2210 - Field Methods in the Earth and Environmental Sciences (3)
ESCI 2222 - Environmental Science (3)
ESCI 3101 - Global Environmental Change (3)
ESCI 3205 - Water Resources (3)
GEOL 1200 - Physical Geology (3)
GEOL 1200L - Physical Geology Lab (1)
GEOL 3105 - Mineral Resources (3)

#### Related Courses (17 credit hours)

BIOL 1110 - Principles of Biology (3)
CHEM 1251 - Principles of Chemistry (3)
CHEM 1251L - Principles of Chemistry Lab (1)
MATH 1241 - Calculus I (3)
PHYS 1101 - Introductory Physics I (3)
PHYS 1101L - Introductory Physics I Lab (1)

*Second Mathematics and Statistics Course*
*Select one of the following:*
MATH 1242 - Calculus II (3)
or STAT 1220 - Elements of Statistics I (BUSN) (3)
or STAT 1221 - Elements of Statistics I (3)
or STAT 1222 - Introduction to Statistics (3)

#### Earth Systems (6 credit hours)

*Select 6 credits from the following:*
BIOL 3144 - Ecology (3)
BIOL 3244 - Field Ecology (3)

BIOL 4144 - Advanced Ecology (4)
ESCI 3105 - Oceanography (3)
ESCI 4140 - Hydrologic Processes (4)
ESCI 4145 - Groundwater (4)
ESCI 4155 - Fluvial Processes (4)
ESCI 4160 - Contaminant Transport (3)
ESCI 4201 - Hydroclimatology (3)
ESCI 4210 - Soil Science (4)
ESCI 4220 - Atmospheric Chemistry (3)
ESCI 4222 - Watershed Science (3)
GEOL 3124 - Sedimentology (4)
GEOL 4105 - Geomorphology (4)
GEOL 4140 - Coastal Geology (3)
GEOL 4145 - Hydrogeology (4)
GEOL 4165 - Aqueous and Environmental Geochemistry (3)
GEOL 4175 - Geochemistry (3)
GEOL 4310 - Applied Soil Science (4)
METR 3140 - Fundamentals of Meteorology (3)
METR 3210 - Atmospheric Thermodynamics (3)
METR 3220 - Physical Meteorology (3)
METR 3245 - Synoptic Meteorology (4)
METR 3250 - Dynamic Meteorology (3)
METR 4205 - Climate Dynamics (3)
METR 4240 - Boundary-Layer Meteorology (3)

**Environment/Human Interactions (6 credit hours)**
*Select 6 credits from the following:*
BIOL 4244 - Conservation Biology (3)
ESCI 3170 - Environmental Quality Management (3)
ESCI 3220 - Air Quality (3)
ESCI 3310 - National Parks: The Science Behind the Scenery (3)
ESCI 4146 - The Business of Ecological Restoration (3)
ESCI 4190 - Contemporary Environmental Issues (3)
GEOG 3102 - Plant Geography (3)
GEOG 3170 - Foundations of Sustainability (3)
GEOG 3180 - Hazards and Disasters (3)
GEOG 3190 - Biogeography (3)
GEOG 3215 - Environmental Planning (3)
GEOG 3220 - Renewable Energy and Regional Energy Markets (3)
GEOG 3250 - World Food Problems (3)
GEOG 3260 - Medical Geography (3)
GEOG 3280 - Sustainability Field Study in the Peruvian Amazon (3)
GEOG 4215 - Urban Ecology (3)
GEOG 4250 - Food, Migration, and Place (3)
GEOL 3190 - Environmental Geology (3)
GEOL 3190L - Environmental Geology Laboratory (1)

**Technical (3 or 4 credit hours)**
*Select 1 of the following:*
ESCI 4122 - Statistics and Data Analysis in Earth Sciences (3)
ESCI 4170 - Fundamentals of Remote Sensing (4)
ESCI 4180 - Digital Image Processing in Remote Sensing (4)
ESCI 4230 - Satellite Observations of Earth and the Atmosphere (4)
GEOG 3120 - Fundamentals of Geographic Information Systems (4)
GEOG 4131 - Environmental Modeling with GIS (4)
GEOG 4255 - Applied Population Analysis (3)
GEOL 4115 - Applied Geophysics (4)
METR 4110 - Atmospheric Instrumentation (3)

**Earth Systems or Environmental/Human Interactions Major Electives (12 credit hours)**
Choose 12 additional credits that may come from any combination of courses from the Earth Systems or Environment/Human Interactions subgroups. ESCI 3000 and ESCI 4000 special topics courses, as well as ESCI 4400, ESCI 4800, or ESCI 4600 may also be counted toward this total.

*Note: Only 6 credits of 3000 and above major electives can be double counted between this degree and degrees in METR, GEOL, EVST, and GEOG degrees.*

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

# Minor in Earth and Environmental Sciences

The Minor in Earth and Environmental Sciences is an interdisciplinary program in the College of Humanities & Earth and Social Sciences that is designed for students pursuing any UNC Charlotte degree who are interested in careers related to studying or managing the environment.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

## Minor Requirements

To obtain a Minor in Earth and Environmental Sciences, students must complete 22 credit hours offered from the Department of Earth, Environmental, and Geographical Sciences and the Department of Biological Sciences. Participating students have some flexibility in choosing elective courses that reflect their specific area of interest within the environmental field. If students are majoring in the departments of Earth, Environmental, and Geographical Sciences or Biological Sciences, they must take at least 12 credits outside of their major subject area (that is, outside of BIOL, ESCI, GEOG, GEOL, or METR, depending on the student's major). Likewise, Environmental Studies majors must take the 12 elective credits outside of GEOG.

Students may not double count major requirements or electives for elective courses in the minor.

**Foundation Courses (10 credit hours)**
ESCI 1101 - Earth Sciences – Geography (3)
ESCI 1101L - Earth Sciences - Geography Lab (1)
ESCI 1501 - Global Social Science: Environment, Society, and Sustainability (3)
ESCI 2222 – Environmental Science (3)

**Elective Courses (12 credit hours)**
*Select from the following:*

**Biological Sciences**
BIOL 3144 - Ecology (3)
BIOL 3202 - Horticulture (3)
BIOL 3222 - General Botany (3)
BIOL 3229 - Field Botany (3)
BIOL 3231 - Invertebrate Zoology (4)
BIOL 3233 - Vertebrate Zoology (4)
BIOL 3235 - Biology of Insects (3)
BIOL 3236 - General Zoology (3)
BIOL 4111 - Evolution (3)
BIOL 4144 - Advanced Ecology (4)
BIOL 4162 - Advanced Biotechnology I (3)
BIOL 4235 - Mammalogy (4)
BIOL 4242 - Biology of Birds (3)
BIOL 4243 - Animal Behavior (3)

**Earth Sciences**
Any ESCI course 2000-level or above
- ESCI 2xxx, 3xxx, 4xxx - Earth Science

**Geography**
GEOG 3102 - Plant Geography (3)
GEOG 3120 - Fundamentals of Geographic Information Systems (4)
GEOG 3180 - Hazards and Disasters (3)
GEOG 3215 - Environmental Planning (3)
GEOG 3220 - Renewable Energy and Regional Energy Markets (3)
GEOG 3250 - World Food Problems (3)
GEOG 3260 - Medical Geography (3)
GEOG 4131 - Environmental Modeling with GIS (4)
GEOG 4215 - Urban Ecology (3)

**Geology**
Any GEOL course 2000-level or above
- GEOL 2xxx, 3xxx, 4xxx - Geology

**Meteorology**
Any METR course 2000-level or above
- METR 2xxx, 3xxx, 4xxx - Meteorology

### Total = 22 Credit Hours

### Progression Requirements
Students must have and maintain a GPA of at least 2.50 to participate in the program.

## Early Entry: Master of Science in Earth Sciences
Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- GRE is not required
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents, which includes a Statement of Purpose, Resume/CV, 3 Letters of Recommendation, and Unofficial Transcript(s)

### Special Policies or Requirements
Up to 9 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 9 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# Environmental Studies
The Environmental Studies program focuses on human interactions with the environment. Areas of study are broad, but focus on the natural and built environments and the relationship between them. Coursework covers areas such as environmental and land use planning, climate change, resource distribution and management, environmental policy, population dynamics, environmental health, food security, and conservation.

Students majoring in Environmental Studies pursue careers in environmental consulting, environmental planning, land development planning, public policy, environmental law and advocacy, park services, and teaching. This degree also prepares students for graduate studies in environmental studies, public policy, and resource management. There are employment opportunities in both government and private industry with the greatest range of positions available to students who earn graduate degrees. For details, see the *UNC Charlotte Graduate Catalog* regarding the M.A. in Geography and M.S. in Earth Sciences program.

# Bachelor of Arts in Environmental Studies

All program-level Admissions and Progression Requirements are in addition to the University of North Carolina at Charlotte Admission Requirements.

## Admission Requirements

### Freshmen

- See University Admission Requirements
- *Minimum GPA:* n/a

### Transfers

- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

### Currently Enrolled Students

- *Declaration of Major:* Students may declare the major at any time before graduation.

## Degree Requirements

A Major in Environmental Studies leading to a B.A. degree consists of a minimum of 55 credit hours of Geography and Earth Sciences and extra-departmental courses in three subgroups: Health and Development, Resources and Conservation, and Planning, Policy, and Society. Students can focus their major elective credits in any of the subgroup areas, tailoring the degree to specific interests and careers. Students are responsible for meeting the course prerequisites for all extra-departmental coursework.

### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

### Foreign Language Requirement (0-8 credit hours)

For details on required courses, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirement.

### Major Courses (22 credit hours)

ESCI 1101 - Earth Science-Geography - (3)
ESCI 1101L - Earth Science-Geography Lab (1)
ESCI 1501 - Global Social Science: Environment, Society, and Sustainability (3)
ESCI 2222 - Environmental Science (3)
ESCI 3101 - Global Environmental Change (3)
ESCI 4190 - Contemporary Environmental Issues (3)
GEOG 1105 - Introduction to Human Geography (3)

*Statistics Course*
*Select one of the following:*
STAT 1220 - Elements of Statistics I (BUSN) (3)
STAT 1221 - Elements of Statistics I (3)
STAT 1222 - Introduction to Statistics (3)

### Resources and Conservation (9 credit hours)

*Choose 9 credit hours from the following:*
BIOL 3144 - Ecology (3)
BIOL 3144L - Ecology Laboratory (1)
BIOL 3244 - Field Ecology (3)
BIOL 4244 - Conservation Biology (3)
BIOL 4244L - Conservation Biology Laboratory (1)
ECON 4181 - Environmental Economics (3)
ESCI 3190 - Biogeography (3)
ESCI 3205 - Water Resources (3)
ESCI 3220 - Air Quality (3)
ESCI 3310 - National Parks: The Science Behind the Scenery (3)
ESCI 4145 - Groundwater (4)
ESCI 4146 - The Business of Ecological Restoration (3)
ESCI 4214 - Global Ecosystems: Human Dimensions and Environmental Dynamics (3)
GEOG 3102 - Plant Geography (3)
GEOG 3170 - Foundations of Sustainability (3)
GEOG 3220 - Renewable Energy and Regional Energy Markets (3)
GEOG 4215 - Urban Ecology (3)
GEOG 4216 - Landscape Ecology (3)
GEOL 3105 - Mineral Resources (3)
GEOL 3190 - Environmental Geology (3)

### Health and Development (9 credit hours)

*Choose 9 credit hours from the following:*
*(Note: Some extradepartmental courses may have additional prerequisites.)*
AFRS 2170 - Introduction to Health and Environmental Issues in the Africana World (3)
AFRS 2174 - Environmental Literature in Africa and the Caribbean (3)
AFRS 4630 - Environmental and Public Health in Africa (3)
AFRS 4640 - Environment, State, and Society in the Caribbean and Latin America (3)
ANTH 2127 - Environmental Anthropology (3)
ANTH 3124 - Food, Nutrition, and Culture (3)
ANTH 3135 - Origins of Globalization (3)
BIOL 4258 - Epidemics and Plagues (3)
BIOL 4274 - Environmental Toxicology and Health (3)
COMM 3115 - Health Communication (3)
COMM 3130 - Rhetoric and Public Culture (3)
ECON 4181 - Environmental Economics (3)
GEOG 2121 - Introduction to Development Studies (3)
GEOG 3180 - Hazards and Disasters (3)
GEOG 3250 - World Food Problems (3)
GEOG 3260 - Medical Geography (3)
GEOG 4255 - Applied Population Analysis (3)
GLST 3001 - Topics In Development and Sustainability Studies (3)
GLST 3125 - Food and Globalization (3)
HLTH 4103 - Environmental Health: A Global Perspective (3)
HLTH 4104 - Epidemiology (3)
HLTH 4290 - Health Management Information Systems (3)
SOCY 2126 - World Population Problems (3)
SOCY 4121 - Globalization and Development (3)

### Planning, Policy, and Society (6 credit hours)

*Choose 6 credit hours from the following:*
AFRS 4640 - Environment, State, and Society in the Caribbean and Latin

America (3)
ESCI 3170 - Environmental Quality Management (3)
GEOG 3106 - Sustainable Cities (3)
GEOG 3200 - Land Use Planning (3)
GEOG 3205 - City Regions and Systems (3)
GEOG 3215 - Environmental Planning (3)
GEOG 3280 - Sustainability Field Study in the Peruvian Amazon (3)
GEOG 4160 - The Geography of Transportation Systems (3)
GEOG 4200 - Environmental Justice, Injustice, and Planning (3)
GEOG 4209 - Small Town and Community Planning (3)
GEOG 4210 - Urban Planning Methods (3)
GEOG 4220 - Housing Policy and Planning (3)
GEOG 4315 - The Urban Form (3)
GEOG 4340 - Urban Analytics (3)
PHIL 3222 - Environmental Ethics (3)
PHIL 3253 - Science, Knowledge, and Values (3)
PHIL 3254 - History and Philosophy of Biology (3)
POLS 2120 - Introduction to Public Policy (3)

**Major Electives (9 credit hours)**
Choose 9 additional credit hours from the Resources and Conservation, Health and Development, and Planning, Policy, and Society subgroups. In addition, ESCI and GEOG 3000 and 4000 level topics courses, as well as ESCI 4600 or 4800 may count toward these elective credits.

Note: Only 6 credits of 3xxx and 4xxx level coursework can be double counted between the EVST and EVSI and GEOG degrees.

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

## Bachelor of Arts in Environmental Studies, *Secondary Teaching Option*

Students preparing to teach high school earth science may become licensed by earning the B.A. in Environmental Studies degree including the Secondary Teaching Option.

### Admission Requirements

**Freshmen**
- See University Admission Requirements
- *Minimum GPA:* n/a

**Transfers**
- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

**Currently Enrolled Students**
- *Declaration of Major:* Students may declare the major at any time before graduation.

### Degree Requirements

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Foreign Language Requirement (0-8 credit hours)**
For details on required courses, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirement.

**Major Courses (30 credit hours)**
ESCI 1101 - Earth Sciences-Geography (3)
ESCI 1101L - Earth Sciences-Geography Lab (1)
ESCI 2101 - The Environmental Dilemma (3)
ESCI 3105 - Oceanography (3)
GEOL 1200 - Physical Geology (3)
GEOL 1200L - Physical Geology Lab (1)
GEOL 1210 - Earth History (3)
GEOL 1210L - Earth History Lab (1)
GEOL 3115 - Mineralogy (4)
GEOL 3190 - Environmental Geology (3)
GEOL 3190L - Environmental Geology Lab (1)
GEOG 2103 - Elements of GIScience and Technologies (4)

**Restricted Elective Courses (11 credit hours)**
Select 11 elective credit hours from ESCI courses, of which at least 4 credit hours are at the 3000 level or above.

**Related Courses (20 credit hours)**
CHEM 1251 - General Chemistry I (3)
CHEM 1251L - General Chemistry I Lab (1)
MATH 1241 - Calculus I (3)
PHYS 1101 - Introductory Physics I (3)
PHYS 1101L - Introductory Physics I Lab (1)
PHYS 1130 - Introduction to Astronomy (3)
PHYS 1130L - Introduction to Astronomy (1)
Plus one additional physical or life science elective

**Minor in Secondary Education (33 credit hours)**
Students must have a Minor in Secondary Education to obtain teaching licensure. See the College of Education section of this *Catalog* for details on the requirements for the minor.

Licensure applications are the responsibility of the student and the Office of Teacher Education Advising and Licensure (TEAL) in the College of Education.

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

# Geography

The Geography program is oriented toward the concepts and methodologies of social science that stress the importance of location. Geography is the study of spatial variation – of how things vary from place to place on the surface of the earth; how places are connected to each other, and the factors that shape how places interact and change over time.

Geography is studied at many levels, from the local to the global, and from many perspectives (i.e., social, cultural, political, economic, and environmental). Conceptual treatment of geographic issues deal with urbanization; globalization; migration; sustainability; patterns of land use; transportation systems; the flow of goods, services, and information; business location; planning for the natural and built environment; and human-environmental interaction in both urban and rural settings. Special emphasis is placed on how these factors shape our world, the places where we live and work, and the ways in which we interact. Geographic analysis involves information technology; mapping and statistical analysis; social area analysis; remote sensing and satellite imagery; and especially the use of Geographic Information Systems (GIS). A host of courses prepare students in both the concepts and methods of contemporary spatial analysis. The department also leads the interdisciplinary Minor in Urban Studies. Geography majors find careers in urban and regional planning, cartography, GIS applications and development, marketing research, transportation planning, real estate development, and teaching. While a wide range of career options are available to undergraduate geography majors, graduate studies provide additional options. For details, see the *UNC Charlotte Graduate Catalog* regarding the M.A. in Geography program.

## Bachelor of Arts in Geography

A Major in Geography leading to a B.A. degree consists of 54 hours in Geography and Earth Sciences coursework.

### Admission Requirements

**Freshmen and Transfers**

- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

**Currently Enrolled Students**

- *Declaration of Major:* Major can be declared on a rolling basis throughout the year. Students may declare the major at any time before graduation.

### Degree Requirements

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Foreign Language Requirement (0-8 credit hours)**

For details on required courses, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirement.

**Major Courses (33 credit hours)**

ESCI 1101 - Earth Science-Geography (3)
ESCI 1101L - Earth Science-Geography Lab (1)
ESCI 1501 – Global Social Science: Environment, Society, and Sustainability (3)
GEOG 1103 - Spatial Thinking (4)
GEOG 1105 - Introduction to Human Geography (3)
GEOG 1501 - Global Social Science: Global Geography (3)
GEOG 1511 – Local Social Science: Urban and Regional Planning (3)
GEOG 2200 – Introduction to Urban Studies (3)
or URBS 2200 – Introduction to Urban Studies (3)
GEOG 2110 - Introduction to Geographic Research (3)
GEOG 3120 – Fundamentals of Geographic Information Systems (4)
GEOG 4600 - Geography Professional Development Seminar (3)

**Urban Studies and Planning (12 credit hours)**

*Choose up to 12 credits from the following:*
GEOG 2111 - Social Inequality and Planning (3)
GEOG 2165 - Patterns of World Urbanization (3)
GEOG 3100 - Geography of Cities (3)
GEOG 3106 - Sustainable Cities (3)
GEOG 3115 - Urban Transportation Problems (3)
GEOG 3200 - Land Use Planning (3)
GEOG 3205 – City Regions and Systems (3)
GEOG 3210 - Regional Planning (3)
GEOG 3215 - Environmental Planning (3)
GEOG 4160 - The Geography of Transportation Systems (3)
GEOG 4200 - Environmental Justice, Injustice, and Planning (3)
GEOG 4209 - Small Town and Community Planning (3)
GEOG 4210 - Urban Planning Methods (3)
GEOG 4215 - Urban Ecology (3)
GEOG 4220 - Housing Policy and Planning (3)
GEOG 4305 - Urban Field and Research Methods (3)
GEOG 4310 - Urban Social Geography (3)
GEOG 4315 - The Urban Form (3)
GEOG 4340 - Urban Analytics (3)
URBS 3801 - Independent Study in Urban Studies (1 to 3)
URBS 4401 - Internship in Urban Studies (3)

**Geography Electives (9 credit hours)**

*Choose 9 credit hours from any 2xxx, 3xxx, or 4xxx GEOG or from the following list of extra-departmental courses:*
ANTH 2125 - Urban Anthropology (3)
POLS 3121 - Urban Politics and Policy (3)

*Recommended Courses:*
GEOG 2102 - Intro to Cartographic Design (3)
GEOG 2105 - Intro to Economic Geography (3)
GEOG 2121 - Intro to Development Studies (3)
GEOG 3170 - Foundations of Sustainability (3)
GEOG 3180 - Hazards and Disasters (3)
GEOG 3250 - World Food Problems (3)
GEOG 3220 - Renewable Energy and Regional Energy Markets (3)
GEOG 3280 - Sustainability Field Study in the Peruvian Amazon (3)
GEOG 4250 - Food, Migration, and Place (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied

regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

## Bachelor of Arts in Geography *with Teacher Licensure in Comprehensive Social Studies*

The Department of Earth, Environmental, and Geographical Sciences , in collaboration with the College of Education and the Department of Middle, Secondary, and K-12 Education, offers a program of geography and professional education courses to prepare students for a North Carolina (9-12) teaching license. Students interested in teaching social studies in the public schools should declare this interest during the first semester of the Sophomore year to obtain appropriate advising and prepare for formal admission to the Minor in Secondary Education. Students should contact the advisor for teacher education within the Department, as well as the Office of Teacher Education Advising and Licensure (TEAL) in the College of Education, for information about the requirements for admission to teacher education, coursework, and the culminating student teaching experience. Additional information about teacher education may be found in the College of Education section of this *Catalog*.

### Admission Requirements

**Freshmen and Transfers**

- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

**Currently Enrolled Students**

- *Declaration of Major:* Major can be declared on a rolling basis throughout the year. Students may declare the major at any time before graduation.

### Degree Requirements

Students seeking teacher licensure in Comprehensive Social Studies must complete the requirements for the B.A. in Geography including 17 credit hours in required coursework and 19 elective credit hours.

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Foreign Language Requirement (0-8 credit hours)**

For details on required courses, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirement.

**Major Courses (17 credit hours)**

GEOG 1103 - Spatial Thinking (4)
GEOG 1105 - Introduction to Human Geography (3)
GEOG 1501 - Global Social Science: Global Geography (3)
GEOG 1511 - Local Social Science: Urban and Regional Planning (3)
GEOG 2110 - Introduction to Geographic Research (3)
GEOG 4600 - Geography Professional Development Seminar (3)

**Comprehensive Social Studies Courses (18 credit hours)**

HIST 1502 - Global Arts/Humanities: Issues in Global History (3)
HIST 1575 - American Democracy's Past and Promise (3)
HIST 2000 - Topics in U.S. History (3) or above (one Topics Course: Africa, Asia, or Latin America)
POLS 1501 - Global Social Science: Introduction to Comparative Politics (3)
or POLS 1150 - International Politics (3)
POLS 1575 - American Politics (3)

**Restricted Elective Courses (19 credit hours)**

Except for required courses, the B.A. degree requires 19 hours of elective coursework numbered 2000 or above, with at least six hours in coursework at the 4000-level. Up to three elective courses may be selected from courses with the ESCI, GEOL, and METR prefix. Students are encouraged to take additional coursework in related disciplines or to select a second major.

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

### Progression Requirements

In addition to requirements set by the College of Education, students must have earned a GPA of 2.5 or above in all social studies courses for admission to student teaching and ultimately for licensure.

## Bachelor of Science in Geography

### Admission Requirements

**Freshmen and Transfers**

- See University Admission Requirements
- *Minimum GPA:* 2.0

### Degree Requirements

A Major in Geography leading to a B. S. degree consists of 57 credit hours of Geography and Earth Sciences courses.

Students pursuing a B. S. in Geography should contact their advisors to develop a program of study that matches their career objectives. Students should work closely with their academic advisors to ensure that their program of study is tailored to their career goals.

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Foreign Language Requirement (0-8 credit hours)**

For details on required courses, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirement.

**Major Courses (30 credit hours)**
ESCI 1101 - Earth Science-Geography (3)
ESCI 1101L - Earth Science-Geography Lab (1)
GEOG 1103 - Spatial Thinking (4)
GEOG 1105 - Introduction to Human Geography (3)
GEOG 1501 - Global Social Science: Global Geography (3)
GEOG 1511 - Local Social Science: Urban and Regional Planning (3)
GEOG 2110 - Introduction to Geographic Research (3)
GEOG 3120 - Fundamentals of Geographic Information Systems (4)
GEOG 4600 - Geography Professional Development Seminar (3)
STAT 1220 - Elements of Statistics I (BUSN) (3)
or STAT 1222 - Introduction to Statistics (3)

**Planning (3 credit hours)**
*Choose one course from the following:*
GEOG 2111 - Social Inequality and Planning (3)
GEOG 3200 - Land Use Planning (3)
GEOG 3210 - Regional Planning (3)
GEOG 3215 - Environmental Planning (3)
GEOG 4200 - Environmental Justice, Injustice, and Planning (3)
GEOG 4209 - Small Town and Community Planning (3)
GEOG 4210 - Urban Planning Methods (3)

**Human/Environment Interaction (3 credit hours)**
*Choose one course from the following:*
ESCI 3101 - Global Environmental Change (3)
ESCI 3170 - Environmental Quality Management (3)
ESCI 4146 - The Business of Ecological Restoration (3)
ESCI 4190 - Contemporary Environmental Issues (3)
GEOG 2140 - Geography of North Carolina (3)
GEOG 2160 - The South (3)
GEOG 3102 - Plant Geography (3)
GEOG 3170 - Foundations of Sustainability (3)
GEOG 3180 - Hazards and Disasters (3)
GEOG 3250 - World Food Problems (3)
GEOG 3260 - Medical Geography (3)
GEOG 3280 - Sustainability Field Study in the Peruvian Amazon (3)
GEOG 4215 - Urban Ecology (3)

**GIS and T (6-8 credit hours)**
*Choose two courses from the following:*
ESCI 4170 - Fundamentals of Remote Sensing (4)
ESCI 4180 - Digital Image Processing in Remote Sensing (4)
GEOG 2102 - Introduction to Cartographic Design (3)
GEOG 4103 - Computer Programming for GIS Applications (3)
GEOG 4131 - Environmental Modeling with GIS (4)
GEOG 4132 - Spatial Modeling for Social and Economical Applications (3)
GEOG 4140 - Geographic Information Techniques for Community Planning (4)
GEOG 4150 - Spatial Database Development with GPS and GIS (3)
GEOG 4155 - Retail Location (3)
GEOG 4180 - Web GIS (3)
GEOG 4340 - Urban Analytics (3)

**Urban, Social, and Economic (6 credit hours)**
*Choose two courses from the following:*
GEOG 2105 - Introduction to Economic Geography (3)
GEOG 2165 - Patterns of World Urbanization (3)
GEOG 2200 - Introduction to Urban Studies (3)
GEOG 3100 - Geography of Cities (3)
GEOG 3105 - Geography of the Global Economy (3)
GEOG 3106 - Sustainable Cities (3)
GEOG 3115 - Urban Transportation Problems (3)
GEOG 3205 - City Regions and Systems (3)
GEOG 3220 - Renewable Energy and Regional Energy Markets (3)
GEOG 4108 - Sport, Place, and Development (3)
GEOG 4160 - The Geography of Transportation Systems (3)
GEOG 4220 - Housing Policy and Planning (3)
GEOG 4250 - Food, Migration, and Place (3)
GEOG 4255 - Applied Population Analysis (3)
GEOG 4305 - Urban Field and Research Methods (3)
GEOG 4310 - Urban Social Geography (3)
GEOG 4315 - The Urban Form (3)

**Major Electives (9 credit hours)**
Select 9 additional credit hours from the Planning, GIS and T, or Urban, Social and Economic focus areas.

*Note: Only 6 credits of 3xxx and 4xxx Major electives can be double counted between EVSI, EVST, and GEOG degrees.*

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

## Minor in Geography

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

### Minor Requirements
The Minor in Geography may be tailored to support a number of majors, such as architecture, business, computer science, and political science. A Minor in Geography consists of 20 credit hours.

**Required Courses (11 credit hours)**
GEOG 1501 - Global Social Science: Global Geography (3)
or GEOG 1105 - Introduction to Human Geography (3)
GEOG 1103 - Spatial Thinking (4)
ESCI 1101 - Earth Science-Geography (3)
ESCI 1101L - Earth Science-Geography Lab (1)

**Elective Courses (9 credit hours)**
*Select 9 credit hours from any 2xxx, 3xxx, or 4xxx GEOG course. Environmental Studies students cannot double count major requirements or electives as the 9 elective credits in this minor.*

GEOG 2xxx Any 2000 level GEOG course

GEOG 3xxx Any 3000 level GEOG course
GEOG 4xxx Any 4000 level GEOG course

**Total = 20 Credit Hours**

# Minor in Sustainability

The Sustainability Minor is designed to expose students to perspectives, approaches and the varying facets of sustainability through a well-rounded 18 credit hour program. Drawing from the United Nations' Sustainable Development Goals, and the Global Council for Science and the Environment, students can explore the social and environmental relationships of a single issue (e.g., food access and distribution), or multiple issues at the heart of sustainable practices. Housed in the Earth, Environmental, and Geographical Sciences Department in the College of Humanities & Earth and Social Sciences, the Minor in Sustainability is available to all students across the University.

All program-level Admissions and Progression Requirements are in addition to the University of North Carolina at Charlotte Admission Requirements.

## Admission Requirements

Undergraduate students of every major can declare this minor.

## Minor Requirements

**Required Courses (6 credit hours)**

All students are required to take ESCI 1501 and GEOG 3170.
ESCI 1501 - Global Social Science: Environment, Society, and Sustainability (3)
GEOG 3170 - Foundations of Sustainability (3)

**Strategic Thinking & Systems Thinking ( 3 credit hours)**

At least 3 credit hours must come from Strategic Thinking & Systems Thinking.

ANTH 3125 - Food and Globalization (3)
ESCI 2222 - Environmental Science (3)
ESCI 3101 - Global Environmental Change (3)
ESCI 3105 - Oceanography (3)
ESCI 3190 - Biogeography (3)
ESCI 3205 - Water Resources (3)
ESCI 4140 - Hydrologic Processes (4)
ESCI 4146 - The Business of Ecological Restoration (3)
GEOG 3115 - Urban Transportation Problems (3)
GEOG 3180 - Hazards and Disasters (3)
GEOG 3220 - Renewable Energy and Regional Energy Markets (3)
GEOG 4250 - Food, Migration, and Place (3)
GEOL 3105 - Mineral Resources (3)
GEOL 3190 - Environmental Geology (3)
GEOL 3190L - Environmental Geology Laboratory (1)
GLST 3118 - Thinking Globally, Reading Deeply: Earth Matters (3)
GLST 3125 - Food and Globalization (3)
GLST 3138 - Environment and Societies (3)
HIST 2111 - Technology and Science in Society II: Since the Industrial Revolution (3)
LTAM 3154 - Political Economy of Latin America (3)
SOCY 2126 - World Population Problems (3)
SPAN 3222 - Spanish for Medical and Healthcare (3)

**Values Thinking & Futures Thinking (3 credit hours)**

At least 3 credit hours must come from Values Thinking & Futures Thinking.

AFRS 2170 - Introduction to Health and Environmental Issues in the Africana World (3)
ESCI 3310 - National Parks: The Science Behind the Scenery (3)
ESCI 4190 - Contemporary Environmental Issues (3)
GEOG 3106 - Sustainable Cities (3)
GEOG 3215 - Environmental Planning (3)
GEOG 3250 - World Food Problems (3)
GEOG 4200 - Environmental Justice, Injustice, and Planning (3)
GEOG 4215 - Urban Ecology (3)
GEOG 4700 - Black Place-Making: Introduction to Black Geographies (3)
GLST 2121 - Introduction to Development Studies (3)
GLST 3139 - Global Environmental Justice (3)
GRNT 4353 - Environments for Aging (3)
PHIL 3222 - Environmental Ethics (3)
PHIL 3253 - Science, Knowledge, and Values (3)
PHIL 3254 - History and Philosophy of Biology (3)
PSYC 2115 - Introduction to Self in Context (3)

**Elective Courses (6 credit hours)**

Students may choose 6 additional elective credits from either the Strategic Thinking & Systems Thinking or Values Thinking and Futures Thinking subgroups. Additional courses can be counted at the discretion of the Sustainability program director.

AFRS 2170 - Introduction to Health and Environmental Issues in the Africana World (3)
ANTH 3125 - Food and Globalization (3)
ESCI 2222 - Environmental Science (3)
ESCI 3101 - Global Environmental Change (3)
ESCI 3105 - Oceanography (3)
ESCI 3190 - Biogeography (3)
ESCI 3205 - Water Resources (3)
ESCI 3310 - National Parks: The Science Behind the Scenery (3)
ESCI 4140 - Hydrologic Processes (4)
ESCI 4146 - The Business of Ecological Restoration (3)
ESCI 4190 - Contemporary Environmental Issues (3)
GEOG 3106 - Sustainable Cities (3)
GEOG 3115 - Urban Transportation Problems (3)
GEOG 3180 - Hazards and Disasters (3)
GEOG 3215 - Environmental Planning (3)
GEOG 3220 - Renewable Energy and Regional Energy Markets (3)
GEOG 3250 - World Food Problems (3)
GEOG 3280 - Sustainability Field Study in the Peruvian Amazon (3)
GEOG 4200 - Environmental Justice, Injustice, and Planning (3)
GEOG 4215 - Urban Ecology (3)
GEOG 4250 - Food, Migration, and Place (3)
GEOG 4700 - Black Place-Making: Introduction to Black Geographies (3)
GEOL 3105 - Mineral Resources (3)
GEOL 3190 - Environmental Geology (3)
GEOL 3190L - Environmental Geology Laboratory (1)
GLST 2121 - Introduction to Development Studies (3)
GLST 3118 - Thinking Globally, Reading Deeply: Earth Matters (3)
GLST 3125 - Food and Globalization (3)

GLST 3138 - Environment and Societies (3)
GLST 3139 - Global Environmental Justice (3)
GRNT 4353 - Environments for Aging (3)
HIST 2111 - Technology and Science in Society II: Since the Industrial Revolution (3)
LTAM 3154 - Political Economy of Latin America (3)
PHIL 3222 - Environmental Ethics (3)
PHIL 3253 - Science, Knowledge, and Values (3)
PHIL 3254 - History and Philosophy of Biology (3)
PSYC 2115 - Introduction to Self in Context (3)
SOCY 2126 - World Population Problems (3)
SPAN 3222 - Spanish for Medical and Healthcare (3)

### Total = 18 Credit Hours

### Special Policies or Requirements

Students may only double count 6 credits in the minor with 6 credits in their major.

***Special, Closed, and Topics Courses***
All special, closed and topics courses must be approved by the Sustainability program director.

## Minor in Urban Studies

For details on the Minor in Urban Studies, please refer to the Urban Studies heading later in the College of Humanities & Earth and Social Sciences section of this *Catalog*.

## Early Entry: Master of Arts in Geography

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

*Note: Standardized test scores (e.g., GRE, GMAT, MAT) are not required.*

### Progression Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree.

### Special Policies or Requirements

Up to 9 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 9 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

### Cooperative Education Program

Students in the Geography and Earth Sciences programs may obtain practical work experience while pursuing their degrees by participating in the Cooperative Education program. The work experience is approved by the department and is closely related to the student's field of study. The Cooperative Education Program allows qualified students either to alternate semesters of academic study with semesters of full-time work experience or to combine part-time academic study and part-time work during the same semester. Students who are in good standing with the University, have a minimum overall GPA of 2.5, and have completed 30 credit hours are eligible to apply. Transfer students are required to complete 12 credit hours at the University prior to application. Students interested in learning more about participating in this program should contact the Department of Earth, Environmental, and Geographical Sciences or the University Career Center.

### Honors Program

For details about the Honors Program in Earth Sciences, Geography, Geology, or Metrology, visit the program page.

# Geology

The Geology program provides students with a framework of geologic fundamentals integrated with applied chemistry, physics, biology, and mathematics. Elective courses allow students to tailor the degree toward specific interests or skills, and internships and independent research opportunities further enhance students' preparedness. Geology graduates find employment in environmental consulting, drilling or mining, and the public sector as well as pursue graduate degrees. For details, see the *Graduate Catalog* regarding the M.S. in Earth Sciences program.

## Bachelor of Science in Geology

All program-level Admissions and Progression Requirements are in addition to the University of North Carolina at Charlotte Admission Requirements.

### Admission Requirements

**Freshmen**

- See University Admission Requirements

- *Minimum GPA:* n/a

**Transfers**
- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

**Currently Enrolled Students**
- *Declaration of Major:* Major can be declared at any time before graduation.

## Degree Requirements

A Major in Geology leading to a B.S. degree consists of a minimum of 49 credit hours in geology and earth sciences and 18 credit hours of extra-departmental courses in chemistry, physics, and mathematics.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Foreign Language Requirement (0-8 credit hours)**
For details on required courses, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirement.

**Major Courses (28 credit hours)**
ESCI 1101 - Earth Sciences – Geography (3)
ESCI 1101L - Earth Sciences – Geography Lab (1)
GEOL 1200 - Physical Geology (3)
GEOL 1200L - Physical Geology Lab (1)
GEOL 1210 - Earth History (3)
GEOL 1210L - Earth History Laboratory (1)
GEOL 3115 - Mineralogy (4)
GEOL 3124 - Sedimentology (4)
GEOL 3130 - Structural Geology (4)
GEOL 4100 - Igneous and Metamorphic Petrology (4)

**Related Courses (18 credit hours)**
CHEM 1251 - General Chemistry I (3)
CHEM 1251L - General Chemistry I Lab (1)
PHYS 1101 - Introductory Physics I (3)
or PHYS 2101 - Physics for Science and Engineering I (3)
PHYS 1101L - Introductory Physics I Lab (1)
or PHYS 2101L - Physics for Science and Engineering I Laboratory (1)
MATH 1241 - Calculus I (3)

**Second Math**
*Choose one of the following:*
MATH 1242 - Calculus II (3)
or STAT 1222 - Introduction to Statistics (3)

**Second Science and Lab**
CHEM 1252 - Principles of Chemistry (3)
CHEM 1252L Principles of Chemistry Lab (1)
or
PHYS 1102 - Introductory Physics II (3)
PHYS 1102L - Introductory Physics II Lab (1)
or
PHYS 2102 - Physics for Science and Engineering II (3)
PHYS 2102L - Physics for Science and Engineering II Laboratory (3)

**GEOL Electives (12 credit hours)**
*Select 12 credit from this core group of elective courses:*
ESCI 4145 - Groundwater (4)
ESCI 4210 - Soil Science (4)
GEOL 3140 - Paleontology (3)
GEOL 3190 - Environmental Geology (3)
GEOL 3190L - Environmental Geology Laboratory (1)
GEOL 4105 - Geomorphology (4)
GEOL 4110 - Stratigraphy (4)
GEOL 4115 - Applied Geophysics (4)
GEOL 4135 - Tectonics (4)
GEOL 4140 - Coastal Geology (3)
GEOL 4145 - Hydrogeology (4)
GEOL 4165 - Aqueous and Environmental Geochemistry (3)
GEOL 4175 - Geochemistry (3)

**Restricted Elective Courses (9 credit hours)**
*Select from the following:*
GEOL 3xxx - Geology Electives (3)
GEOL 4xxx - Geology Electives (3)
ESCI 3101 - Global Environmental Change (3)
ESCI 3105 - Oceanography (3)
ESCI 3310 - National Parks: The Science Behind the Scenery (3)
ESCI 3205 - Water Resources (3)
ESCI 4122 - Statistics and Data Analysis in Earth Sciences (3)
ESCI 4140 - Hydrologic Processes (4)
ESCI 4155 - Fluvial Processes (4)
ESCI 4160 - Contaminant Transport (3)
ESCI 4170 - Fundamentals of Remote Sensing (4)
ESCI 4180 - Digital Image Processing in Remote Sensing (4)
ESCI 4201 - Hydroclimatology (3)
ESCI 4222 – Watershed Science (3)
ESCI 4230 - Satellite Observations of Earth and the Atmosphere (4)
ESCI 4600 - Earth and Environmental Sciences Professional Seminar (1)
GEOG 3120 - Fundamentals of Geographic Information Systems (4)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Minor in Geology

A minor in Geology consists of 20 semester hours in Geology courses and approved Earth science courses. The minor can be tailored to support a number of majors, such as engineering, biology, chemistry, or physics. At most, eight (8) credit hours may be double-counted toward a major in Earth and Environmental Sciences, Environmental Studies, Geography, or Meteorology.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

### Minor Requirements

**Required Courses (8 hours)**
GEOL 1200 - Physical Geology (3)
GEOL 1200L - Physical Geology Lab (1)
GEOL 1210 - Earth History (3)
GEOL 1210L - Earth History Laboratory (1)

**Elective Courses (Select 12 hours)**
Students may choose any 3000 or 4000-level GEOL course or from the approved list of ESCI courses.

GEOL 3xxx – Any 3000-level GEOL course
GEOL 4xxx – Any 4000-level GEOL course
ESCI 3105 - Oceanography (3)
ESCI 3310 – National Parks : The Science Behind the Scenery (3)
ESCI 4210 - Soil Science (3)

### Total = 20 Credit Hours

# Meteorology

The Meteorology program provides students with an understanding of the atmosphere and the development of methods for applying that knowledge to practical problems. Meteorology is an applied science that combines the fields of physics, chemistry, mathematics, and computer science into an application of understanding the atmosphere. The program exposes students to all of these disciplines, while in parallel applying these science concepts to mesoscale, synoptic, and global scale phenomena.

Students graduate with the skills and experience they need for professional employment within industry, private consulting firms, television, government, and the armed forces or for further study toward graduate degrees. Meteorology also has significant ties to environmental, agricultural, oceanic, and hydrological sciences and, being in an interdisciplinary Geography and Earth Sciences department, allows students to explore these classes and possible minors.

## Bachelor of Science in Meteorology

The primary goal of the Bachelor of Science in Meteorology is to advance our understanding of the atmospheric processes that influence weather and climate. This pursuit inherently involves an interdisciplinary approach through the combination of advanced coursework in mathematics, chemistry, physics, statistics, computer science, geology, earth sciences, and meteorology with emphasis on recent basic and applied research. The program is designed to provide the next generation of meteorologists with sufficient knowledge and skills to: (1) effectively monitor and analyze the atmospheric state across a spectrum of temporal and geospatial scales; (2) provide accurate and timely forecasts of ordinary and severe weather; and (3) address relevant contemporary challenges such as global and region climate change, human interactions with the natural environment, and the development of resilient and sustainable communities. To this end, the core meteorological curriculum is composed of courses that collectively provide a broad treatment of multi-scale atmospheric processes, including atmospheric thermodynamics and physics as well as synoptic, dynamic, and mesoscale meteorology.

### Admission Requirements

**Freshmen**

- See University Admission Requirements
- *Minimum GPA:* n/a

**Transfers**

- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

**Currently Enrolled Students**
*Declaration of Major:* Major can be declared at any time before graduation.

### Degree Requirements

The major comprises a minimum of 73 total credit hours with 37 credit hours of required departmental courses, 9 credit hours of elective departmental courses, and 27 credit hours of required extra-departmental courses. Students are also encouraged to take additional

coursework in related disciplines. Students enrolled in the program must complete a total of 120 credit hours.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Foreign Language Requirement (0-8 credit hours)**
For details on required courses, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirement.

**Major Courses (37 credit hours)**
ESCI 3101 - Global Environmental Change (3)
METR 1102 - Introduction to Meteorology (3)
METR 1102L – Introduction to Meteorology Lab (1)
METR 1600 - First-Year Meteorology Seminar (1)
METR 3140 - Fundamentals of Meteorology (3)
METR 3210 - Atmospheric Thermodynamics (3)
METR 3220 - Physical Meteorology (3)
METR 3245 - Synoptic Meteorology (4)
METR 3250 - Dynamic Meteorology (3)
METR 4105 - Meteorological Computer Applications (3)
METR 4205 - Climate Dynamics (3)
METR 4245 - Advanced Synoptic Meteorology (3)
METR 4250 - Advanced Dynamic Meteorology (3)
METR 4650 - Meteorology Professional Seminar (1)

**Restricted Elective Courses (9 credit hours)**
*Select from the following:*
ESCI 3220 - Air Quality (3)
ESCI 4140 - Hydrological Processes (4)
ESCI 4201 - Hydroclimatology (3)
ESCI 4220 - Atmospheric Chemistry (3)
ESCI 4230 - Satellite Observations of Earth and the Atmosphere (4)
GEOG 4110 - GIS for Non-Majors (3)
METR 3330 - Weather Forecasting (3)
METR 3340 - Weather Communications (3)
METR 4000 - Selected Topics in Meteorology (1 to 4)
METR 4110 - Atmospheric Instrumentation (3)
METR 4240 - Boundary-Layer Meteorology (3)
METR 4320 - Tropical Meteorology (3)
METR 4350 - Mesoscale Meteorology (3)
METR 4400 - Internship in Meteorology (3 to 6)
METR 4800 - Individual Study in Meteorology (1 to 4)

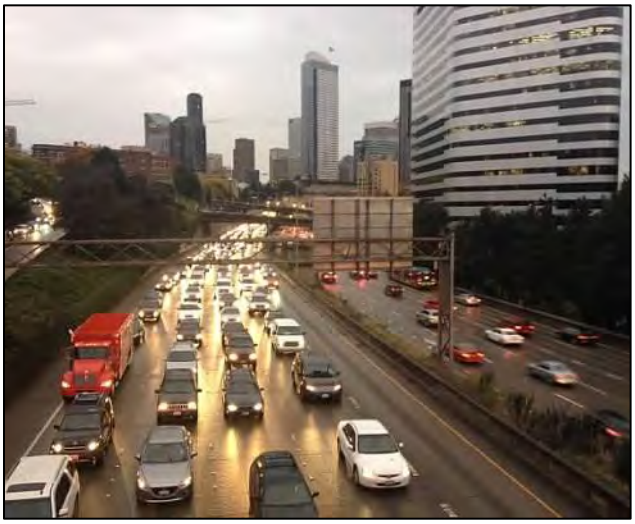
**Related Courses (27 credit hours)**
CHEM 1251 - General Chemistry I (3)
CHEM 1251L - General Chemistry I Lab (1)
ESCI 4122 - Statistics and Data Analysis in Earth Sciences (3)
or STAT 2122 - Introduction to Probability and Statistics (3)
or STAT 3122 - Probability and Statistics I (3)
or MATH 3122 - Probability and Statistics I (3)
MATH 1241 - Calculus I (3)
MATH 1242 - Calculus II (3)
MATH 2171 - Differential Equations (3)
MATH 2241 - Calculus III (3)
PHYS 2101 - Physics for Science I (3)
PHYS 2101L - Physics for Science I Lab (1)
PHYS 2102 - Physics for Science II (3)
PHYS 2102L - Physics for Science II Lab (1)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

# Urban Studies

Urban Studies is an interdisciplinary program that prepares students to better understand and be able to effectively address, as both professionals and citizens, the many challenges presented by the rapid pace of urban change in the 21st century.



## Minor in Urban Studies

The Minor in Urban Studies provides an excellent foundation for students interested in pursuing careers such as architecture, land-use or community planning, law, public policy and administration, education, law enforcement, community organizing, transportation, housing and commercial development, real estate, political service, social work, journalism and research.

Coursework in urban history, sociology, and anthropology introduces students to theory development and evaluation and builds skills of critical thinking and analysis. Coursework in architecture, political science, and geography additionally emphasizes the ways in which urban practitioners identify and work to solve urban problems and challenges.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

### Minor Requirements

A Minor in Urban Studies requires completion of 18 credit hours. A Minor in Urban Studies requires completion of 18 credit hours. All students in the Minor are required to take *Introduction to Urban Studies* as a foundational course:

**Required Courses (3 credit hours)**

All students are required to take *Introduction to Urban Studies.*

GEOG 2200 - Introduction to Urban Studies (3)
or URBS 2200 - Introduction to Urban Studies (3)

**Elective Courses (15 credit hours)**

*The remaining 15 credit hours may be selected from the following course options:*

ANTH 2125 - Urban Anthropology (3)
ARCH 4201 - Architectural History I: Prehistory-1750 (3)
ECON 4150 - Urban and Regional Economics (3)
GEOG 1110 - Introduction to Urban and Regional Planning (3)
GEOG 2111 - Social Inequality and Planning (3) (SL)
GEOG 2165 - Patterns of World Urbanization (3)
GEOG 3100 - Geography of Cities (3)
GEOG 3106 - Sustainable Cities (3)
GEOG 3115 - Urban Transportation Problems (3)
GEOG 3200 - Land Use Planning (3)
GEOG 3205 - City Regions and Systems (3)
GEOG 3210 - Regional Planning (3)
GEOG 4200 - Environmental Justice, Injustice, and Planning (3)
GEOG 4209 - Small Town and Community Planning (3)
GEOG 4210 - Urban Planning Methods (3)
GEOG 4215 - Urban Ecology (3)
GEOG 4220 - Housing Policy and Planning (3)
GEOG 4310 - Urban Social Geography (3)
GEOG 4315 - The Urban Form (3)
GEOG 4340 - Urban Analytics (3)
POLS 3121 - Urban Politics and Policy (3)
or GEOG 3110 - Urban Political Geography (3)
SOCY 3325 - Community and Identity (3) (SL)
SOCY 4125 - Urban Sociology (3)
URBS 3050 - Topics in Urban Studies (3)

**Additional Course Options**

With prior permission from the Urban Studies Director, students may also select from:

URBS 3801 - Independent Study in Urban Studies (3)
URBS 4401 - Internship in Urban Studies (3)

Students may also count up to 9 credit hours of other courses that have a significant urban focus with the prior permission of the Director of the Minor in Urban Studies in the Department of Earth, Environmental, and Geographical Sciences .

Of their total 18 hours, students are expected to take no more than 6 credit hours of coursework in any one disciplinary area.

### Minor Total = 18 Credit Hours

# Other Programs

## Honors Program in Geography, Geology, Earth and Environmental Sciences, Environmental Studies, or Meteorology

To graduate with Honors in Geography, Geology, Earth and Environmental Sciences, Environmental Studies, or Meteorology, students must meet the following requirements:

1) Satisfy all the requirements for the degree sought and for the major in Geography, Geology, Earth and Environmental Sciences, Environmental Studies, or Meteorology.

2) Maintain at least a 3.2 GPA overall and a 3.2 GPA in all geography, geology, earth sciences, and meteorology courses taken at UNC Charlotte to satisfy major requirements.

3) As part of the final 15 hours of coursework, students must: (a) register for at least 3 hours of the Honors section of GEOG 4800, GEOL 4800, ESCI 4800, or METR 4800 (Individual Study in Geography/Geology/Earth Sciences/Meteorology), and (b) complete a research project and an Honors thesis to be submitted to the Department Honors Committee composed of department faculty that certifies that the project merits Honors distinction. Candidates must earn a grade of A on the thesis research (Honors section of 4800) and present the results in a public forum. To be certified as Honors quality, projects must contain original research and demonstrate a high degree of scholarship.

### Progression Requirements

Students seeking the Honors designation must notify the Department Honors Committee of their proposed research plan during the semester prior to undertaking the research project and must submit an Application for Admission to Candidacy to the Honors Council. Both the Department Honors Committee and the Honors Council must approve the proposed research plan before the student can be admitted to candidacy as an Honors student.

### Special Policies or Requirements

Faculty members who serve on the Department Honors Committee will not evaluate projects completed under their supervision. Instead, another faculty member will be asked to evaluate the project in question along with the other members of the Department Honors Committee. Should the Department Honors Committee agree to confer Honors on the student's project, it will certify this to the Department Chair and to the Honors Council. Should the Department Honors Committee decide that the project does not warrant Honors, students will still receive whatever grade the faculty member supervising the project assigns.

The honors notation will appear on a student's official transcript.

## Cooperative Education Program

Students in the Geography and Earth Sciences programs may obtain practical work experience while pursuing their degrees by participating

in the Cooperative Education program. The work experience is approved by the department and is closely related to the student's field of study. The Cooperative Education Program allows qualified students either to alternate semesters of academic study with semesters of full-time work experience or to combine part-time academic study and part-time work during the same semester. Students who are in good standing with the University, have a minimum overall GPA of 2.5, and have completed 30 credit hours are eligible to apply. Transfer students are required to complete 12 credit hours at the University prior to application. Students interested in learning more about participating in this program should contact the Department of Earth, Environmental, and Geographical Sciences or the University Career Center.

# Department of English

english.charlotte.edu

## Undergraduate Programs

- **B.A. in English**
  - **Creative Writing**
  - **Education**
  - **Language and Digital Technology**
  - **Literature and Culture**
  - **Honors Program**
- **Minor in Children's Literature and Childhood Studies**
- **Minor in Comparative Literature and Cultural Studies**
- **Minor in English**
- **Minor in Linguistics**
- **Minor in Technical/Professional Writing**
- **Early Entry: M.A. in English**

The Department of English fosters students' abilities to think critically, to read analytically, and to communicate effectively in oral and written form. A Major in English helps students develop an "advanced literacy" that enables them to excel in analytical argumentation, problem-solving, and understanding diverse cultural perspectives.

Specifically, English classes teach students to engage critically with various kinds of "texts": from daily language use to technical manuals, from Shakespearean drama to film, from lyric poetry to children's literature. As a result, English majors learn:

- How to work critically and creatively with a diverse array of complex ideas and texts
- How to construct effective written texts of various kinds
- How to think flexibly about the world we occupy and to adapt written and oral communication accordingly
- How to move easily and confidently between the realms of written, spoken, visual, and electronic communication
- How to operate and communicate effectively across disciplines in the humanities and sciences
- How to understand the complex interactions between written texts and social worlds (real and virtual)
- How to locate, critically analyze, and make use of research materials
- How to engage with a variety of writing and digital technologies

Because advanced literacy skills are in high demand, students find careers in fields such as teaching, technical/professional writing, creative writing, editing, publishing, advertising, public relations, and nonprofits, as well as in business, financial services, and banking. Others pursue advanced degrees in literature, law, medicine, teaching, and business administration.

English graduate students often go on to pursue similar careers, but their advanced degrees give them additional opportunities for professional achievement. Master's students are successful in their pursuit of Ph.D.

degrees, as well as positions in professional writing, teaching, and administration. Please see the *UNC Charlotte Graduate Catalog* for details on graduate programs.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

# Bachelor of Arts in English

A Major in English leading to the B.A. degree consists of 36 credit hours of coursework at the 1000-level or above. Students may also elect an optional concentration from one of four areas:

1) Creative Writing
2) Education
3) Language and Digital Technology
4) Literature and Culture

## Admission Requirements

**New Freshmen and Transfers**

- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

**Currently Enrolled Students**

Change of major form accepted year-round. Students must make an advising appointment during SOAR and when declaring the major.

## Degree Requirements

Students in the major must complete a minimum of 36 credit hours in English courses, including 12 credit hours at the 4000-level. No more than 12 credit hours in ENGL at the 1000– or 2000-level may be counted toward the major, with no more than 6 credit hours at the 1000-level. English majors not electing a specific concentration must complete the following:

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Foreign Language Requirement (0-8 credit hours)**

For details, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirements at the beginning of this section.

**Major Courses (36 credit hours)**

***Creative Writing Courses***

*Select two of the following:*

ENGL 2126 - Introduction to Creative Writing (3)
ENGL 2127 - Introduction to Poetry Writing (3)
ENGL 2128 - Introduction to Fiction Writing (3)
ENGL 2201 - Contemporary Poetry (3)
ENGL 2202 - Contemporary Fiction (3)
ENGL 3201 - Intermediate Poetry Writing (3)
ENGL 3202 - Intermediate Fiction Writing (3)
ENGL 3203 - Intermediate Creative Nonfiction Writing (3)
ENGL 4078 - Special Topics in Poetry Writing (3)
ENGL 4079 – Special Topics in Fiction Writing (3)
ENGL 4202 - Advanced Poetry Writing (3)
ENGL 4203 - Advanced Fiction Writing (3)
ENGL 4206 - Advanced Creative Nonfiction Writing (3)
ENGL 4207 - Writing Young Adult Fiction (3)

***Language and Digital Technology Courses***

*Select two of the following:*

ENGL 2116 - Introduction to Technical Communication (3)
ENGL 2161 - Grammar for Writing (3)
ENGL 3132 - Introduction to Contemporary American English (3)
ENGL 3162 - Language and the Virtual World (3)
ENGL 3180 - Language and Digital Technology (3)
ENGL 4008 - Topics in Advanced Technical Communication (3)
ENGL 4160 - Origins of Language (3)
ENGL 4161 - Modern English Grammar (3)
ENGL 4165 - Multiculturalism and Language (3)
ENGL 4167 - The Mind and Language (3)
ENGL 4168 - Multimodality and Text Description (3)
ENGL 4181 - Writing and Designing User Documents (3)
ENGL 4182 - Information Design and Digital Publishing (3)
ENGL 4183 - Editing with Digital Technologies (3)
ENGL 4204 - Expository Writing (3)
ENGL 4235 - History of the Book (3)
ENGL 4260 - History of Global Englishes (3)
ENGL 4262 - Language and Diversity (3)
ENGL 4267 - Language and Culture in Digital Spaces (3)
ENGL 4270 - Studies in Writing, Rhetoric, and Literacy (3)
ENGL 4271 - Studies in Writing, Rhetoric, and New Media (3)
ENGL 4272 - Studies in the Politics of Language and Writing (3)
ENGL 4273 - Studies in Writing, Rhetoric, and Identity (3)
ENGL 4274 - Visual Rhetoric (3)
ENGL 4275 - Rhetoric and Technology (3)
ENGL 4277 - Digital Literacies (3)
ENGL 4400 - Research, Theory, and Practice of Tutoring Writing (3)
ENGL 4410 - Professional Internship (3 or 6)

***Literature and Culture Courses***

*Select two of the following:*

ENGL 2072 - Topics in Literature and Film (3)
ENGL 2074 - T Topics in Children's/YA Literature, Culture, and/or Media (3)
ENGL 2081 - Topics in Author, Pop Culture, and Genre Studies (3)
ENGL 2082 - Topics in Film, Performance, and Print & Digital Culture (3)
ENGL 2083 - Topics in Genders, Sexualities, and Literature (3)
ENGL 2084 - Topics in Global Cultures, Identities, and Diverse Literatures (3)
ENGL 2085 - Topics in Literature, Science, and the Environment (3)
ENGL 2100 - Writing About Literature (3)
ENGL 2106 - Film Criticism (3)
ENGL 2108 - Introduction to Drama (3)
ENGL 2301 - Introduction to African American Literature (3)
ENGL 2400 - American Literature Survey (3)
ENGL 2401 - British Literature Survey I (3)
ENGL 2402 - British Literature Survey II (3)
ENGL 3072 - Topics in Literature and Film (3)
ENGL 3074 - Topics in Children's Literature, Media, and Culture (3)
ENGL 3081 - Topics in Author, Pop Culture, and Genre Studies (3)
ENGL 3082 - Topics in Film, Performance, and Print & Digital Culture (3)

ENGL 3083 - Topics in Genders, Sexualities, and Literature (3)
ENGL 3084 - Topics in Global Cultures, Identities, and Diverse Literatures (3)
ENGL 3085 - Topics in Literature, Science, and the Environment (3)
ENGL 3100 - Approaches to Literature and Culture (3)
ENGL 3102 - Literature for Young Children (3)
ENGL 3103 - Children's Literature (3)
ENGL 3104 - Literature for Adolescents (3)
ENGL 3125 - Introduction to U.S. Latinx Literature (3)
ENGL 3158 - Gender and African American Literature (3)
ENGL 3159 - African American Poetry (3)
ENGL 3211 - Medieval Literature (3)
ENGL 3212 - British Renaissance Literature (3)
ENGL 3213 - British Literature of the Restoration and 18th Century (3)
ENGL 3214 - Romantic British Literature, 1785 1832 (3)
ENGL 3215 - British Victorian Literature (3)
ENGL 3216 - British Literature in Transition, 1870 1914 (3)
ENGL 3217 - Modern British Literature (3)
ENGL 3231 - Early African American Literature (3)
ENGL 3233 - American Literature of the Romantic Period (3)
ENGL 3234 - American Literature of the Realist and Naturalist Periods (3)
ENGL 3235 - Modern American Literature (3)
ENGL 3236 - African American Literature, Harlem Renaissance to Present (3)
ENGL 3237 - Modern and Recent U.S. Multiethnic Literature (3)
ENGL 4002 - Women and Literature (3)
ENGL 4072 - Topics in Literature and Film (3)
ENGL 4074 - Topics in Children's/YA Literature, Culture, and/or Media (3)
ENGL 4081 - Topics in Author, Pop Culture, and Genre Studies (3)
ENGL 4082 - Topics in Film, Performance, and Print & Digital Culture (3)
ENGL 4083 - Topics in Genders, Sexualities, and Literature (3)
ENGL 4084 - Topics in Global Cultures, Identities, and Diverse Literatures (3)
ENGL 4085 - Topics in Literature, Science, and the Environment (3)
ENGL 4102 - British Children's Literature (3)
ENGL 4103 - American Children's Literature (3)
ENGL 4104 - Multiculturalism and Children's Literature (3)
ENGL 4111 - Ancient World Literature (3)
ENGL 4112 - Modern World Literature (3)
ENGL 4116 - Shakespeare's Early Plays (3)
ENGL 4117 - Shakespeare's Late Plays (3)
ENGL 4120 - Romantic British Literature, 1785 1832 (3)
ENGL 4132 - British Drama to 1642, Excluding Shakespeare (3)
ENGL 4141 - American Literature of the Realist and Naturalist Periods (3)
ENGL 4145 - Literature of the American South (3)
ENGL 4151 - Drama (3)
ENGL 4235 - History of the Book (3)
ENGL 4325 - Trauma and Memory in Contemporary American Literature (3)

**Restricted Elective Courses (18 credit hours)**
Select 15 additional credit hours in ENGL courses at the 1000- or 2000 level or above, with no more than 6 credit hours at the 1000-level.

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

### Progression Requirements
A GPA of 2.0 or above in all English courses above the 1000-level is required for graduation.

## Bachelor of Arts in English *with Concentration in Creative Writing*

### Admission Requirements
**New Freshmen and Transfers**
- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

**Currently Enrolled Students**
Change of major form accepted year-round. Students must make an advising appointment during SOAR and when declaring the major.

### Degree Requirements
Students in the major must complete a minimum of 36 credit hours in English courses, including 12 credit hours at the 4000-level. No more than 12 credit hours in ENGL at the 1000- or 2000-level may be counted toward the major, with no more than 6 credit hours at the 1000-level.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Foreign Language Requirement (0-8 credit hours)**
For details, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirements at the beginning of this section.

**Major Courses (21 credit hours)**
***Introductory Creative Writing Courses (6 credit hours)***
*Select two courses at the 2000-level:*

*One course must come from these three courses:*
ENGL 2126 - Introduction to Creative Writing (3)
ENGL 2127 - Introduction to Poetry (3)
ENGL 2128 - Introduction to Fiction Writing (3)

*The second course may come from the first list or from the following options, which do not advance students into 3000- and 4000-level creative writing courses but may be taken concurrently.*
ENGL 2079 - Special Topics in Creative Writing (3)
ENGL 2201 - Contemporary Poetry (3)

ENGL 2202 - Contemporary Fiction (3)

***Intermediate Creative Writing Course (3 credit hours)***
*Select one of the following:*
ENGL 3201 - Intermediate Poetry Writing (3)
ENGL 3202 - Intermediate Fiction Writing (3)
ENGL 3203 - Intermediate Creative Nonfiction Writing (3)

***Advanced Creative Writing Courses (6 credit hours)***
*Select two of the following:*
ENGL 4078 - Special Topics in Poetry Writing (3)
ENGL 4079 - Special Topics in Fiction Writing (3)
ENGL 4202 - Advanced Poetry Writing (3)
ENGL 4203 - Advanced Fiction Writing (3)
ENGL 4206 - Advanced Creative Nonfiction Writing (3)
ENGL 4207 - Writing Young Adult Fiction (3)

***Literature Courses (6 credit hours)***
*Select one course from two of the following categories:*

*Author, Pop Culture, and Genre Studies*
ENGL 2081 - Topics in Author, Pop Culture, and Genre Studies (3)
ENGL 2106 - Film Criticism (3)
ENGL 2108 - Introduction to Drama (3)
ENGL 3081 - Topics in Author, Pop Culture, and Genre Studies (3)
ENGL 3159 - African American Poetry (3)
ENGL 4081 - Topics in Author, Pop Culture, and Genre Studies (3)
ENGL 4116 - Shakespeare's Early Plays (3)
ENGL 4132 - British Drama to 1642 (3)
ENGL 4145 - Literature of the American South (3)
ENGL 4151 - Drama (3)

*Children's & Young Adult Literature and Culture*
ENGL 2074 - Topics in Children's/YA Literature, Culture, and/or Media (3)
ENGL 3074 - Topics in Children's Literature, Media, and Culture (3)
ENGL 3102 - Literature for Young Children (3)
ENGL 3103 - Children's Literature (3)
ENGL 3104 - Literature for Adolescents (3)
ENGL 4074 - Topics in Children's/YA Literature, Culture, and/or Media (3)
ENGL 4102 - British Children's Literature (3)
ENGL 4103 - American Children's Literature (3)
ENGL 4104 - Multiculturalism and Children's Literature (3)

*Film, Performance, and Print & Digital Culture*
ENGL 2082 - Topics in Film, Performance, and Print & Digital Culture (3)
ENGL 2106 - Film Criticism (3)
ENGL 2108 - Introduction to Drama (3)
ENGL 3082 - Topics in Film, Performance, and Print & Digital Culture (3)
ENGL 3235 - Modern American Literature (3)
ENGL 4082 - Topics in Film, Performance, and Print & Digital Culture (3)
ENGL 4116 - Shakespeare's Early Plays (3)
ENGL 4117 - Shakespeare's Late Plays (3)
ENGL 4132 - British Drama to 1642 (3)
ENGL 4151 - Drama (3)
ENGL 4235 - History of the Book (3)

*Genders, Sexualities, and Literatures*
ENGL 2083 - Topics in Genders, Sexualities, and Literature (3)
ENGL 3083 - Topics in Genders, Sexualities, and Literature (3)
ENGL 3158 - Gender and African American Literature (3)
ENGL 4002 - Women and Literature (3)
ENGL 4083 - Topics in Genders, Sexualities, and Literature (3)

*Global Cultures, Identities, and Comparative Literature*
ENGL 2084 - Topics in Global Cultures, Identities, and Diverse Literatures (3)
ENGL 2301 - Introduction to African American Literature (3)
ENGL 3084 - Topics in Global Cultures, Identities, and Diverse Literatures (3)
ENGL 3125 - Introduction to U.S. Latinx Literature (3)
ENGL 3158 - Gender and African American Literature (3)
ENGL 3159 - African American Poetry (3)
ENGL 3231 - Early African American Literature (3)
ENGL 3236 - African American Literature, Harlem Renaissance to Present (3)
ENGL 3237 - Modern and Recent U.S. Multiethnic Literature (3)
ENGL 4084 - Topics in Global Cultures, Identities, and Diverse Literatures (3)
ENGL 4104 - Multiculturalism and Children's Literature (3)
ENGL 4111 - Ancient World Literature (3)
ENGL 4112 - Modern World Literature (3)
ENGL 4235 - History of the Book (3)

*Literature, Science, and the Environment*
ENGL 2085 - Topics in Literature, Science, and the Environment (3)
ENGL 3085 - Topics in Literature, Science, and the Environment (3)
ENGL 4085 - Topics in Literature, Science, and the Environment (3)

**Restricted Elective Courses (15 credit hours)**
Select fifteen additional credit hours in ENGL courses at the 1000- or 2000-level or above, with no more than 6 credit hours at the 1000-level.

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements
A GPA of 2.0 or above in all English courses above the 1000-level is required for graduation.

## Special Policies or Requirements
Students in the Creative Writing Concentration must complete ENGL 2126, ENGL 2127, or ENGL 2128, or gain permission from their instructor before registering for creative writing courses as the 3000- and 4000-level.

# Bachelor of Arts in English *with Concentration in Education*

## Admission Requirements

**New Freshmen and Transfers**

- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

**Currently Enrolled Students**

Change of major form accepted year-round. Students must make an advising appointment during SOAR and when declaring the major.

## Degree Requirements

Students in the major must complete a minimum of 36 credit hours in English courses, including 12 credit hours at the 4000-level. No more than 12 credit hours in ENGL at the 1000- or 2000-level may be counted toward the major, with no more than 6 credit hours at the 1000-level.

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Foreign Language Requirement (0-8 credit hours)**

For details, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirements at the beginning of this section.

## Major Courses (36 credit hours)

**Required Major Courses (12 credit hours)**

ENGL 3100 - Approaches to Literature and Culture (3)
ENGL 4200 - Teaching of Writing (3)
ENGL 4201 - Teaching of Multiethnic Literature (3) *(or an approved course in multiethnic literature*)*
ENGL 4254 - Teaching English/Communication Skills to Middle and Secondary School Learners (3)

**Elective Major Courses (21 credit hours)**

***Literature Survey Courses (12 credit hours)***

*American Literature Survey Course (6 credit hours)*
*Select two of the following:*
ENGL 3125 - Introduction to U.S. Latinx Literature (3)
ENGL 3231 - Early African American Literature (3)
ENGL 3233 - American Literature of the Romantic Period (3)
ENGL 3234 - American Literature of the Realist and Naturalist Periods (3)
ENGL 3235 - Modern American Literature (3)
ENGL 3236 - African American Literature, Harlem Renaissance to Present (3)
ENGL 3237 - Modern and Recent U.S. Multiethnic Literature (3)
ENGL 4325 - Trauma and Memory in Contemporary American Literature (3)

*British Literature Survey Course (3 credit hours)*
*Select one of the following:*
ENGL 3211 - Medieval Literature (3)
ENGL 3212 - British Renaissance Literature (3)
ENGL 3213 - British Literature of the Restoration and 18th Century (3)
ENGL 3214 - Romantic British Literature, 1785-1832 (3)
ENGL 3215 - British Victorian Literature (3)
ENGL 3216 - British Literature in Transition, 1870-1914 (3)
ENGL 3217 - Modern British Literature (3)

*American Literature or British Literature Survey Course (3 credit hours)*
Select one additional course from the list of American Literature or British Literature Survey Courses above.

***Linguistics Course (3 credit hours)***

*Students should choose from the following courses to complete their linguistics course requirement: ENGL 2161, or 3132, or 4161.*

***World Literature Course (3 credit hours)***

*Select one of the following:*
ENGL 4111 - Ancient World Literature (3) *
ENGL 4112 - Modern World Literature (3) *

**or an approved course in World Literature at the 2000-level or above*

***Shakespeare Course (3 credit hours)***

*Select one of the following:*
ENGL 4116 - Shakespeare's Early Plays (3)
ENGL 4117 - Shakespeare's Late Plays (3)
or an approved alternative

**Restricted Elective Course (3 credit hours)**

Select one additional ENGL course at the 1000-level or above.

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements

- A GPA of 2.0 or above in all English courses above the 1000-level is required for graduation.
- ENGL 3190, ENGL 4201, and ENGL 4200 should be completed before enrolling in ENGL 4254.
- Senior Year: ENGL 4254 in either Fall or Spring semester

# Bachelor of Arts in English *with Concentration in Language and Digital Technology*

## Admission Requirements

**New Freshmen and Transfers**

- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

**Currently Enrolled Students**

Change of major form accepted year-round. Students must make an advising appointment during SOAR and when declaring the major.

## Degree Requirements

Students in the major must complete a minimum of 36 credit hours in English courses, including 12 credit hours at the 4000-level. No more than 12 credit hours in ENGL at the 1000- or 2000-level may be counted toward the major, with no more than 6 credit hours at the 1000-level.

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Foreign Language Requirement (0-8 credit hours)**

For details, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirements at the beginning of this section.

**Major Courses (6 credit hours)**

ENGL 3162 - Language and the Virtual World (3)
ENGL 3180 - Language and Digital Technology (3)
**Remaining courses not taken as a Major Course may be taken as a Concentration Course.*

**Concentration Courses (21 credit hours)**

*Select seven of the following:*
ENGL 2116 - Introduction to Technical Writing (3)
ENGL 2161 - Grammar for Writing (3)
ENGL 3132 - Introduction to Contemporary American English (3)
ENGL 4008 - Topics in Technical Writing (3)
ENGL 4160 - Origins of Language (3)
ENGL 4161 - Modern English Grammar (3)
ENGL 4165 - Multiculturalism and Language (3)
ENGL 4167 - The Mind and Language (3)
ENGL 4168 - Multimodality and Text Description (3)
ENGL 4181 - Writing and Designing User Documents (3)
ENGL 4182 - Information Design and Digital Publishing (3)
ENGL 4183 - Editing with Digital Technologies (3)
ENGL 4204 - Expository Writing (3)
ENGL 4235 - History of the Book (3)
ENGL 4260 - History of Global Englishes (3)
ENGL 4262 - Language and Diversity (3)
ENGL 4270 - Studies in Writing, Rhetoric and Literacy - (3)
ENGL 4271 - Studies in Writing, Rhetoric, and New Media
ENGL 4272 - Studies in The Politics of Language and Writing (3)
ENGL 4273 - Studies in Writing, Rhetoric, and Identity (3)
ENGL 4274 - Visual Rhetoric (3)
ENGL 4267 - Language and Culture in Digital Spaces (3)
ENGL 4275 - The Rhetoric of Technology (3)
ENGL 4277 - Digital Literacies (3)
ENGL 4400 - Research, Theory, and Practice of Tutoring Writing (3)
ENGL 4410 - Professional Internship (3)

**Restricted Elective Courses (9 hours)**

Select nine additional credit hours in ENGL courses at the 1000- or 2000-level or above, with no more than 6 credit hours at the 1000-level.

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements

A GPA of 2.0 or above in all English courses above the 1000-level is required for graduation.

# Bachelor of Arts in English *with Concentration in Literature and Culture*

## Admission Requirements

**New Freshmen and Transfers**

- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

**Currently Enrolled Students**

Change of major form accepted year-round. Students must make an advising appointment during SOAR and when declaring the major.

## Degree Requirements

Students in the major must complete a minimum of 36 credit hours in English courses, including 12 credit hours at the 4000-level. No more than 12 credit hours in ENGL at the 1000- or 2000-level may be counted toward the major, with no more than 6 credit hours at the 1000-level.

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Foreign Language Requirement (0-8 credit hours)**

For details, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirements at the beginning of this section.

**Major Course (3 credit hours)**

ENGL 3100 - Approaches to Literature and Culture (3)

**Concentration Required Courses (12 credit hours)**
Students choose four courses from two of the following thematic clusters, taking two courses in each of those clusters: Author, Pop Culture, and Genre Studies; Children's & Young Adult Literature and Culture; Film, Performance, and Print & Digital Culture; Genders, Sexualities, and Literature; Global Cultures, Identities, and Comparative Literature; and Literature, Science, and the Environment. Transfer courses will be considered, but only two courses at the 2000-level will be credited toward these requirements. Approved alternatives at the 4000-level can be used to satisfy this requirement.

***Author, Pop Culture, and Genre Studies***
ENGL 2081 - Topics in Author, Pop Culture, and Genre Studies (3)
ENGL 2106 - Film Criticism (3)
ENGL 2108 - Introduction to Drama (3)
ENGL 2201 - Contemporary Poetry (3)
ENGL 2202 - Contemporary Fiction (3)
ENGL 3081 - Topics in Author, Pop Culture, and Genre Studies (3)
ENGL 3159 - African American Poetry (3)
ENGL 4081 - Topics in Author, Pop Culture, and Genre Studies (3)
ENGL 4116 - Shakespeare's Early Plays (3)
ENGL 4117 - Shakespeare's Late Plays (3)
ENGL 4132 - British Drama to 1642 (3)
ENGL 4145 - Literature of the American South (3)
ENGL 4151 - Drama (3)

***Children's & Young Adult Literature and Culture***
ENGL 2074 - Topics in Children's/YA Literature, Culture, and/or Media (3)
ENGL 3074 - Topics in Children's Literature, Media, and Culture (3)
ENGL 3102 - Literature for Young Children (3)
ENGL 3103 - Children's Literature (3)
ENGL 3104 - Literature for Adolescents (3)
ENGL 4074 - Topics in Children's/YA Literature, Culture, and/or Media (3)
ENGL 4102 - British Children's Literature (3)
ENGL 4103 - American Children's Literature (3)
ENGL 4104 - Multiculturalism and Children's Literature (3)

***Film, Performance, and Print & Digital Culture***
ENGL 2082 - Topics in Film, Performance, and Print & Digital Culture (3)
ENGL 2106 - Film Criticism (3)
ENGL 2108 - Introduction to Drama (3)
ENGL 3082 - Topics in Film, Performance, and Print & Digital Culture (3)
ENGL 4082 - Topics in Film, Performance, and Print & Digital Culture (3)
ENGL 4116 - Shakespeare's Early Plays (3)
ENGL 4117 - Shakespeare's Late Plays (3)
ENGL 4132 - British Drama to 1642 (3)
ENGL 4151 - Drama (3)
ENGL 4235 - History of the Book (3)

***Genders, Sexualities, and Literature***
ENGL 2083 - Topics in Genders, Sexualities, and Literature (3)
ENGL 3083 - Topics in Genders, Sexualities, and Literature (3)
ENGL 3158 - Gender and African American Literature (3)
ENGL 4002 - Women and Literature (3)
ENGL 4083 - Topics in Genders, Sexualities, and Literature (3)

***Global Cultures, Identities, and Comparative Literature***
ENGL 2084 - Topics in Global Cultures, Identities, and Diverse Literatures (3)
ENGL 2301 - Introduction to African American Literature (3)
ENGL 3084 - Topics in Global Cultures, Identities, and Diverse Literatures (3)
ENGL 3125 - Introduction to U.S. Latinx Literature (3)
ENGL 3158 - Gender and African American Literature (3)
ENGL 3159 - African American Poetry (3)
ENGL 3231 - Early African American Literature (3)
ENGL 3236 - African American Literature, Harlem Renaissance to Present (3)
ENGL 3237 - Modern and Recent U.S. Multiethnic Literature (3)
ENGL 4084 - Topics in Global Cultures, Identities, and Diverse Literatures (3)
ENGL 4104 - Multiculturalism and Children's Literature (3)
ENGL 4111 - Ancient World Literature (3)
ENGL 4112 - Modern World Literature (3)
ENGL 4325 - Trauma and Memory in Contemporary American Literature (3)

***Literature, Science, and the Environment***
ENGL 2085 - Topics in Literature, Science, and the Environment (3)
ENGL 3085 - Topics in Literature, Science, and the Environment (3)
ENGL 4085 - Topics in Literature, Science, and the Environment (3)

**Concentration Elective Courses (12 credit hours)**
*Select four of the following:*
ENGL 2072 - Topics in Literature and Film (3)
ENGL 2074 - Topics in Children's/YA Literature, Culture, and/or Media (3)
ENGL 2100 - Writing About Literature (3)
ENGL 2106 - Film Criticism (3)
ENGL 2108 - Introduction to Drama (3)
ENGL 2201 - Contemporary Poetry (3)
ENGL 2202 - Contemporary Fiction (3)
ENGL 2301 - Introduction to African American Literature (3)
ENGL 2400 - American Literature Survey (3)
ENGL 2401 - British Literature Survey I (3)
ENGL 2402 - British Literature Survey II (3)
ENGL 3072 - Topics in Literature and Film (3)
ENGL 3074 - Topics in Children's Literature, Media, and Culture (3)
ENGL 3100 - Approaches to Literature and Culture (3)
ENGL 3102 - Literature for Young Children (3)
ENGL 3103 - Children's Literature (3)
ENGL 3104 - Literature for Adolescents (3)
ENGL 3158 - Gender and African American Literature (3)
ENGL 3159 - African American Poetry (3)
ENGL 3211 - Medieval Literature (3)
ENGL 3212 - British Renaissance Literature (3)
ENGL 3213 - British Literature of the Restoration and 18th Century (3)
ENGL 3214 - Romantic British Literature, 1785-1832 (3)
ENGL 3215 - British Victorian Literature (3)
ENGL 3216 - British Literature in Transition, 1870-1914 (3)
ENGL 3217 - Modern British Literature (3)

ENGL 3231 - Early African American Literature (3)
ENGL 3233 - American Literature of the Romantic Period (3)
ENGL 3234 - American Literature of the Realist and Naturalist Periods (3)
ENGL 3235 - Modern American Literature (3)
ENGL 3236 - African American Literature, Harlem Renaissance to Present (3)
ENGL 3237 - Modern and Recent U.S. Multiethnic Literature (3)
ENGL 4002 - Women and Literature (3)
ENGL 4072 - Topics in Literature and Film (3)
ENGL 4074 - Topics in Children's/YA Literature, Culture, and/or Media (3)
ENGL 4102 - British Children's Literature (3)
ENGL 4103 - American Children's Literature (3)
ENGL 4104 - Multiculturalism and Children's Literature (3)
ENGL 4111 - Ancient World Literature (3)
ENGL 4112 - Modern World Literature (3)
ENGL 4116 - Shakespeare's Early Plays (3)
ENGL 4117 - Shakespeare's Late Plays (3)
ENGL 4120 - Romantic British Literature, 1785-1832 (3)
ENGL 4132 - British Drama to 1642, Excluding Shakespeare (3)
ENGL 4141 - American Literature of the Realist and Naturalist Periods (3)
ENGL 4145 - Literature of the American South (3)
ENGL 4151 - Drama (3)
ENGL 4235 - History of the Book (3)

**Restricted Elective Courses (9 credit hours)**
Select nine additional credit hours in ENGL courses at the 1000- or 2000-level or above, with no more than 6 credit hours at the 1000-level.

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

### Progression Requirements
A GPA of 2.0 or above in all English courses above the 1000-level is required for graduation.

## Minor in English
Students who do not major in English but plan to take courses in English, for pleasure or in order to build their skills with language, should consult the department about the possibility of a Minor in English, Children's Literature and Childhood Studies, Comparative Literature and Cultural Studies, Linguistics, or Technical/Professional Writing.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

**New Transfer**
See University Admission Requirements

### Minor Requirements
A Minor in English consists of 18 credit hours in English courses at the 2000-level or above.

**Required Courses (3 credit hours)**
ENGL 3100 - Approaches to Literature and Culture (3)

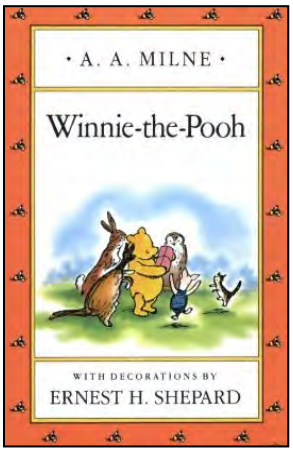
**Elective Courses (15 credit hours)**
Select five ENGL courses, of which at least six credit hours are at the 3000-level or above.

### Minor Total = 18 Credit Hours

### Progression Requirements
A GPA of 2.0 or above in all English courses taken is required for graduation.

### Special Policies or Requirements
*The Department of English allows English majors who minor in Children's Literature and Childhood Studies, Comparative Literature and Cultural Studies, Linguistics, or Technical/Professional Writing to count only two courses from the minor toward fulfillment of the major degree requirements.*

## Minor in Children's Literature and Childhood Studies
The Minor in Children's Literature and Childhood Studies (CLCS) provides students with an opportunity to study children's literature within the context of the interdisciplinary field of childhood studies. The minor recognizes that the academic study of children's literature is intrinsically linked to other disciplines that focus on particular aspects of childhood. In addition to taking courses in children's literature, students participating in this minor select courses pertaining to such child-related topics as language acquisition, child psychology, education, juvenile law, pediatric nursing, and the history and culture of childhood.




### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

**New Transfer**
See University Admission Requirements

## Minor Requirements

The Minor in Children's Literature and Childhood Studies consists of 18 credit hours at the 2000-level and above.

**Required Core Course (3 credit hours)**
ENGL 3103 - Children's Literature (3)

**Elective Courses (15 credit hours)**
***Children's Literature Courses (6 credit hours)***
*Select two of the following:*
ENGL 2074 - Topics in Children's/YA Literature, Culture, and/or Media (3)
ENGL 3074 - Topics in Children's Literature, Media, and Culture (3)
ENGL 3102 - Literature for Young Children (3)
ENGL 3104 - Literature for Adolescents (3)
ENGL 4074 - Topics in Children's/YA Literature, Culture, and/or Media (3)
ENGL 4102 - British Children's Literature (3)
ENGL 4103 - American Children's Literature (3)
ENGL 4104 - Multiculturalism and Children's Literature (3)
ENGL 4207 - Writing Young Adult Fiction (3)

***Child-Related Courses (6 credit hours)***
*Select two of the following:*
ANTH 2090 - Topics in Anthropology (1 to 3) *(related to CLCS)*
CJUS 2361 - Juvenile Justice (3)
CJUS 3353 - Juvenile Corrections (3)
ECEI 2111 - Theoretical Foundations of Early Childhood Care and Education (3)
EDUC 2100 - Foundations of Education and Diversity in Schools (3)
or EDUC 1100 - Foundations of Education and Diversity in Schools - Prospect Curriculum (4)
MUSC 2191 - Incorporating Music Into the Elementary Classroom (3)
NURS 2200 - Human Growth and Development (3)
PHIL 3274 - Philosophy of Education (3)
PSYC 2370 - Child Development (3)
PSYC 2371 - Adolescent Development (3)
SOCY 2132 - Sociology of Marriage and the Family (3)
SPED 2100 - Introduction to Students with Special Needs (3)
THEA 4360 - Theatre for Young Audiences (3)
WGST 3130 - Perspectives on Motherhood (3)

***Children's Literature or Child-Related Course (3 credit hours)***
Select one additional Children's Literature or Child-Related Course not already taken from the above lists.

## Minor Total = 18 Credit Hours

## Progression Requirements

A GPA of 2.0 or above in all English courses taken is required for graduation.

## Special Policies or Requirements

*The Department of English allows English majors who minor in Children's Literature and Childhood Studies, Comparative Literature and Cultural Studies, Linguistics, or Technical/Professional Writing to count only two courses from the minor toward fulfillment of the major degree requirements.*

# Minor in Comparative Literature and Cultural Studies

The Minor in Comparative Literature and Cultural Studies provides students with an opportunity to study literature and culture in more comparative contexts and forms. Students explore the ways in which the academic study of literature and culture is linked to other disciplines. Students may select from a wide range of courses in African American Literature and Culture, Africana Studies, American Indian Literature and Culture, Anthropology, Latino/Latina Literature and Culture, Women's and Gender Studies, and History.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

**New Transfer**
See University Admission Requirements

## Minor Requirements

The Minor in Comparative Literature and Cultural Studies consists of 18 credit hours at the 2000-level and above.

**Foundation Course (3 credit hours)**
Either ENGL 2100 - Writing About Literature (3)
or ENGL 3100 - Approaches to Literature and Culture (3)

**Elective Courses in the Department of English (9 credit hours)**
*Select three of the following:*
ENGL 2301 - Introduction to African American Literature (3)
ENGL 3125 - Introduction to U.S. Latinx Literature (3)
ENGL 3158 - Gender and African American Literature (3)
ENGL 3159 - African American Poetry (3)
ENGL 3231 - Early African American Literature (3)
ENGL 3236 - African American Literature, Harlem Renaissance to Present (3)
ENGL 3237 - Modern and Recent U.S. Multiethnic Literature (3)
ENGL 4002 - Women and Literature (3)
ENGL 4111 - Ancient World Literature (3)
ENGL 4112 - Modern World Literature (3)
ENGL 4104 - Multiculturalism and Children's Literature in (3)
ENGL 4165 - Multiculturalism and Language (3)
ENGL 4260 - History of Global Englishes (3)
ENGL 4262 - Language and Diversity (3)
ENGL 4267 - Language and Culture in Digital Spaces (3)
ENGL 4270 - Studies in Writing, Rhetoric, and Literacy (3)
ENGL 4271 - Studies in Writing, Rhetoric, and New Media (3)
ENGL 4273 - Studies in Writing, Rhetoric, and Identity (3)
ENGL 4325 - Trauma and Memory in Contemporary American Literature (3)

*Note: The below topics courses and/or other ENGL courses may be substituted if designated with a "C" in the course's section number within Banner, or with the permission of Director of Undergraduate Studies.*

ENGL 2090 - Topics in English (3)
ENGL 3050 - Topics in English (3)
ENGL 4050 - Topics in English (3)
ENGL 4072 - Topics in Literature and Film (3)
ENGL 4074 - Topics in Children's/YA Literature, Culture, and/or Media (3)

**Elective Courses in Other Departments (6 credit hours)**
*Select two of the following courses in a Comparative Subject Area from a department(s) outside of English:*

AFRS 2103 - Introduction to Hip Hop (3)
AFRS 2105 - Black Images in the Media in the U.S. (3)
AFRS 2107 - Global Hip Hop (3)
AFRS 2120 - African American Women (3)
AFRS 2156 - African Civilization (3)
AFRS 2160 - The African American Experience through Civil War (3)
AFRS 2161 - The African American Experience: Civil War to Civil Rights (3)
AFRS 2170 - Introduction to Health and Environmental Issues in the Africana World (3)
AFRS 2172 - Black Sexuality and Health (3)
AFRS 2206 - African Literature, Music, and Art (3)
AFRS 2215 - Black Families in the United States (3)
AFRS 2221 - Modern Africa (3)
AFRS 3101 - Perspectives on Race and Ethnicity in the US (3)
AFRS 3155 - Health and Healing in Africa (3)
AFRS 3179 - African American Political Philosophy (3)
AFRS 3192 - African Cinema (3)
AFRS 3200 - Folklore of Africa and the African Diaspora (3)
AFRS 3218 - Racial Violence, Colonial Times to Present (3)
AFRS 3240 - Race and the Law (3)
AFRS 3261 - Psychology of the Black Experience (3)
AFRS 3262 - Philosophy and Race (3)
AFRS 3270 - Afro-Latin American History (3)
AFRS 4100 - African Diaspora Theory (3)
ANTH 2112 - North American Indians (3)
GLST 1501 - Global Social Science: Globalization and Interdependence (3)
GLST 3112 - Globalization and Culture (3)
GLST 3117 - Narratives and Conflicts (3)
GLST 3127 - Global Media (3)
GLST 3172 - Political Repression and Rebellion in the Contemporary World (3)
HIST 2150 - U.S. Women's History to 1877 (3)
HIST 2151 - U.S. Women's History Since 1877 (3)
HIST 2160 - African American History, 1400-1860 (3)
HIST 2161 - African American History Since 1860 (3)
LANG 3160 - European Cinema (3)
WGST 2120 - African American Women (3)
WGST 2123 - Women in Cross-Cultural Perspective (3)
WGST 2130 - Masculinity and Manhood (3)
WGST 2140 - Gender and Sport (3)
WGST 2160 - Introduction to LGBTQ+ Studies (3)
WGST 2252 - European Women's and Gender History (3)
WGST 3019 - Hispanic Women Writers in English Translation (3)
WGST 3112 - Women's Diaries and Women's Experience (3)
WGST 3130 - Perspectives on Motherhood (3)
WGST 3131 - History of Sexuality (3)
WGST 3160 - Gender and Education (3)
WGST 3180 - Gender in Hip Hop Culture (3)
WGST 3215 - Religion and Sexuality (3)
WGST 3310 - Gender and Sexuality (3)
WGST 4140 - African American Feminism (3)
WGST 4150 - Gender, Science, and Technology (3)
WGST 4160 - The Politics of the Body (3)
WGST 4170 - Queer Theory (3)

### Minor Total = 18 Credit Hours

### Progression Requirements
A GPA of 2.0 or above in all English courses taken is required for graduation.

### Special Policies or Requirements
The Department of English allows English majors who minor in Children's Literature and Childhood Studies, Comparative Literature and Cultural Studies, Linguistics, or Technical/Professional Writing to count only two courses from the minor toward fulfillment of the major degree requirements.

## Minor in Linguistics
An interdisciplinary Minor in Linguistics provides students with an opportunity to study linguistics within an interdisciplinary context. This minor recognizes that the academic study of linguistics is linked to other disciplines that focus on particular aspects of language as the object of study. Students participating in this minor select from a range of courses in Anthropology, English, Computer Sciences, Communication Studies, Cognitive Science, Languages, Cultures and Translation, Philosophy, and Teaching English as a Second Language.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

**New Transfer**
See University Admission Requirements

### Minor Requirements
The Minor in Linguistics consists of 18 credit hours of coursework at the 2000-level and above.

**Foundation Course (3 hours)**
ENGL 3132 - Introduction to Contemporary American English (3)

**English Elective Courses (9 hours)**
*Select three of the following:*
ENGL 2161 - Grammar for Writing (3)
ENGL 3162 - Language and the Virtual World (3)
ENGL 4160 - Origins of Language (3)
ENGL 4161 - Modern English Grammar (3)
ENGL 4165 - Multiculturalism and Language (3)
ENGL 4167 - The Mind and Language (3)
ENGL 4168 - Multimodality and Text Description (3)
ENGL 4260 - History of Global Englishes (3)
ENGL 4262 - Language and Diversity (3)

ENGL 4267 - Language and Culture in Digital Spaces (3)

Other courses that do not appear on the above list, especially special topics courses and independent study courses, may be approved by the Applied Linguistics coordinator if they pertain to language study.

**Language Study Elective Courses (6 hours)**
*Select two courses from other departments approved for the minor pertaining to language study:*

ANTH 2161 - Introduction to Linguistic Anthropology (3)
ANTH 4120 - Intercultural Communications (3)
ITSC 3688 - Computers and their Impact on Society (3)
PHIL 3242 – Philosophy of Mind (3)
PHIL 3251 - Advanced Logic (3)
PHIL 3252 - Philosophy of Language (3)
PSYC 3216 - Introduction to Cognitive Science (3)
PSYC 3316 - Language and Cognition (3)
PSYC 4116 - Cognitive Neuroscience (3)
SPAN 4231 - Spanish Phonetics (3)
SPAN 4232 - Spanish Linguistics (3)
SPAN 4233 - History of the Spanish Language (3)
TESL 4204 - Inclusive Classrooms for Immigrant Students (3)
TESL 4300 - Second Language Development in K-12 Classrooms
TESL 4600 - Literacy Development for Second Language Learners (3)
TR AN 3601 - Introduction to Translation and Interpreting Studies (3)

### Minor Total = 18 Credit Hours

### Progression Requirements
A GPA of 2.0 or above in all English courses taken is required for graduation.

### Special Policies or Requirements
*The Department of English allows English majors who minor in Children's Literature and Childhood Studies, Comparative Literature and Cultural Studies, Linguistics, or Technical/Professional Writing to count only two courses from the minor toward fulfillment of the major degree requirements.*

## Minor in Technical/Professional Writing

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

**New Transfer**
See University Admission Requirements

### Minor Requirements
The Minor in Technical/Professional Writing consists of 21 credit hours of coursework.

**Required Courses (9 credit hours)**
ENGL 2116 – Introduction to Technical Communication (3)
ENGL 3180 - Language and Digital Technology (3)
ENGL 4410 - Professional Internship (3)

**Elective English Courses (9 credit hours)**
*Select three of the following:*
ENGL 3162 - Language and the Virtual World (3)
ENGL 4008 - Topics in Advanced Technical Communication (3)
ENGL 4181 - Writing and Designing User Documents (3)
ENGL 4182 - Information Design and Digital Publishing (3)
ENGL 4183 - Editing with Digital Technologies (3)

*Note: ENGL 2116 is a prerequisite for some courses in the minor. Students should declare the minor before trying to enroll in ENGL 2116 to assure a place in the course.*

### Minor Total = 18 Credit Hours

### Progression Requirements
A GPA of 2.0 or above in all English courses taken is required for graduation.

### Special Policies or Requirements
*The Department of English allows English majors who minor in Children's Literature and Childhood Studies, Comparative Literature and Cultural Studies, Linguistics, or Technical/Professional Writing to count only two courses from the minor toward fulfillment of the major degree requirements.*

## Honors Program in English
The Department of English offers an Honors Program that consists of three courses.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
- See University Admission Requirements
- Entry into all honors courses is by permission of the department only and requires a GPA of 3.0 in ENGL courses and 3.0 overall. Though English Honors requirements are normally completed in their final year, qualified students are urged to discuss the English Honors Program with the Department's Honors Coordinator early in their career.

**New Transfer**
See University Admission Requirements

### Course Requirements
**Currently Enrolled Students**
Any or all of these three required courses may also be used toward a student's electives in a concentration within the English major, applied as appropriate depending on the course content.

ENGL 4750 - English Honors Seminar (3)
ENGL 4751 - English Honors Thesis Seminar (3)
ENGL 4752 - English Honors Thesis (3)

### Progression Requirements
To continue in the Honors Program, candidates must:
- Maintain a 4.0 GPA in honors courses

To be awarded honors in English, candidates must:

- Write an honors capstone thesis of "A" quality (i.e., a grade of A for either ENGL 4751 or ENGL 4752) as judged by a committee of three readers
- Receive a grade of A in ENGL 4750
- Achieve a minimum GPA of 3.50 in all ENGL courses
- Achieve a minimum overall GPA of 3.0
- In the semester before graduation, candidates must either present their capstone thesis at an undergraduate colloquium or submit the thesis to an undergraduate journal
- Formally apply and be approved for Honors Candidacy by the Honors College, a process that will be initiated as part of either ENGL 4751 or ENGL 4752

The honors notation will appear on a student's official transcript.

# Early Entry: Master of Arts in English

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

*Note: Standardized test scores (e.g., GRE, MAT) are not required.*

## Progression Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree.

## Special Policies or Requirements

Up to 6 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 6 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# Department of Global Studies

globalstudies.charlotte.edu

## Undergraduate Programs

- B.A. in Global Studies
  - Development and Sustainability
  - Global Cultural Studies
  - Holocaust, Genocide, and Human Rights
  - Peace, Conflict, and Identity
  - Honors Program
- Minor in Holocaust, Genocide, and Human Rights Studies
- Minor in Global Studies

The Department of Global Studies brings together perspectives from the social sciences and the humanities to study cultural, economic, political and geographic issues from around the world. It provides a truly interdisciplinary worldview to address the most pressing global challenges of the 21st century. An undergraduate major (B.A.) in Global Studies, as well as minors in Global Studies and Holocaust, Genocide, and Human Rights are offered. The Global Studies major encourages students to concentrate on critical issues of a global nature – peace and conflict, development and sustainability, comparative genocide and human rights. Advanced foreign language competency is also emphasized to enhance a student's research and communication. Finally, students are required to participate in an international experience which can take the form of experiential learning (e.g., an internship abroad), an exchange program at a foreign university, or a study abroad experience. These experiences are intended to broaden students' appreciation of the distinctiveness of other environments and cultures while augmenting their preparation for future study or participation in an increasingly globalized workforce.

## Bachelor of Arts in Global Studies *with Concentration in Development and Sustainability*

The Global Studies major draws upon the faculty and courses of the Department of Global Studies, as well as a number of other departments, and is structured to give students skills and knowledge to understand and analyze societies outside the United States in the context of the rapidly changing and increasingly interdependent world. By integrating courses on world affairs from a variety of disciplines, the program allows students interested in studying other cultures and societies to focus attention across traditional disciplinary boundaries. Global Studies is of particular value to those with career objectives in government, law, journalism, teaching, business, trade, or military service. It also serves those who will seek employment with international organizations such as the United Nations or with non-governmental agencies with an international or cross-cultural focus.

Global Studies graduates work for employers such as local, state, and federal governments; international organizations; private sector businesses; nonprofit organizations; colleges and universities; elementary and secondary schools; think tanks; the military; newspapers and magazines; law firms; financial institutions; public relations firms; and the travel industry. They also find careers as foreign service officers, policy analysts, international trade specialists, diplomats, United Nations staffers, lobbyists, intelligence specialists, translators/ interpreters, US Customs officers, cultural liaisons, journalists, business managers, government or business consultants, ESL administrators/instructors, professors, teachers, travel/tourism promoters, military officers, and missionaries.

### Admission Requirements

**Freshmen**

- See University Admission Requirements
- *Minimum GPA:* 2.0. Students with GPA below 2.0 should consult with departmental advisor.

**Transfers**

- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

**Currently Enrolled Students**

- *Declaration of Major:* Change of Major form accepted year-round; orientation/advising session required after declaration.

### Degree Requirements

A Major in Global Studies requires a minimum of 30 credit hours in courses approved for Global Studies credit. Majors must also complete related work in foreign language and an international experience as stipulated in the core curriculum. Each student, in consultation with an advisor, will prepare a Plan of Study for completion of these requirements upon declaration of the major.

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

The Department of Global Studies offers a Global Social Science (GLST 1501) general education course, which is open to all students within and outside the department. GLST 1501 is required of all Global Studies Majors and Minors.

**Foreign Language Courses**
Students are expected to demonstrate competency in a foreign language appropriate to their selected concentration by completing the equivalent of two courses at the 3000-level or above or demonstrating proficiency at the 4000-level. Language courses at the 3000-level offered in English do not apply to the foreign language requirement.

**Core Course (6 credit hours)**
GLST 1501 - Global Social Science: Globalization and Interdependence (3)
GLST 2112 – Problems in Globalization (3)

**Concentration Courses (12 credit hours)**
***Foundation Concentration Course (3 credit hours)***
GLST 2121 - Introduction to Development Studies (3)

***Elective Concentration Courses (9 credit hours)***
*Select three of the following, two of which must be GLST courses:*
AFRS 3155 - Health and Healing in Africa (3)
or HIST 3155 - Health and Healing in Africa (3)
AFRS 3265 - African Economic Development (3)
AFRS 4630 - Environmental and Public Health in Africa (3)
ANTH 3222 - Culture, Health, and Disease (3)
ECON 2101 - Principles of Economics - Macro (3)
GEOG 2165 - Patterns of World Urbanization (3)
GEOG 3105 - Geography of the Global Economy (3)
GEOG 3250 - World Food Problems (3)
GLST 3000 - Topics in International Studies (1 to 3) *(if designated for concentration)*
GLST 3001 - Topics In Development and Sustainability Studies (3)
GLST 3114 - Cultures of the Caribbean (3)
GLST 3118 - Thinking Globally, Reading Deeply: Earth Matters (3)
GLST 3125 - Food and Globalization (3)
or ANTH 3125 - Food and Globalization (3)
GLST 3127 - Global Media (3)
GLST 3135 - Origins of Globalization (3)
or ANTH 3135 - Origins of Globalization (3)
GLST 3151 - International Political Economy (3)
or POLS 3151 - International Political Economy (3)
GLST 3161 - Migration and Borders in a Global World (3)
or GEOG 3161 - Migration and Borders in a Global World (3)
GLST 3138 - Environment and Societies (3)
GLST 3139 - Global Environmental Justice (3)
HLTH 4280 - Global Health Issues (3)
LBST 2102 - Global and Intercultural Connections (3) *(equivalent Honors Section)*
LTAM 3154 - Political Economy of Latin America (3)
or POLS 3155 - Latin American Political Economy (3)

**Restricted Elective Courses (9 credit hours)**
*Select three elective courses outside of the above selected concentration.*

GLST xxxx - International Studies Elective (3)
GLST xxxx - International Studies Elective (3)
GLST xxxx - International Studies Elective (3)

**Seminar Course (3 credit hours)**
GLST 4601 - International Studies Seminar (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

**International Experience**
Students are required to complete an international experience related to the area studies concentration they have selected. This may be fulfilled through participation in a formal education abroad program or through foreign- based work, service, or internship activities. This experience must be specified and approved by an advisor. Academic credit hours earned may be applied to the requirements of the major. A U.S.-based experience of an international nature or prior international experience may be considered in certain circumstances, subject to the approval of an advisor.

### Second Majors
Students pursuing a second major may apply up to 9 credit hours from courses in that major toward requirements for the major in Global Studies. Exceptions may be approved by an advisor upon consultation with the other program in question. Without exception, courses that are used to fulfill the foreign language requirement for Global Studies cannot be used to fulfill other requirements for the major.

### Degree Total = 120 Credit Hours

### Progression Requirements
A GPA of 2.0 is required.

## Bachelor of Arts in Global Studies *with Concentration in Global Cultural Studies*
The Global Studies major draws upon the faculty and courses of the Department of Global Studies, as well as a number of other departments, and is structured to give students skills and knowledge to understand and analyze societies outside the United States in the context of the rapidly changing and increasingly interdependent world. By integrating courses on world affairs from a variety of disciplines, the program allows students interested in studying other cultures and societies to focus attention across traditional disciplinary boundaries. Global Studies is of particular value to those with career objectives in government, law, journalism, teaching, business, trade, or military service. It also serves those who will seek employment with international organizations such as the United Nations or with non-governmental agencies with an international or cross-cultural focus.

Global Studies graduates work for employers such as local, state, and federal governments; international organizations; private sector businesses; nonprofit organizations; colleges and universities; elementary and secondary schools; think tanks; the military; newspapers and magazines; law firms; financial institutions; public relations firms; and the travel industry. They also find careers as foreign service officers, policy analysts, international trade specialists, diplomats, United Nations staffers, lobbyists, intelligence specialists, translators/interpreters, US

Customs officers, cultural liaisons, journalists, business managers, government or business consultants, ESL administrators/instructors, professors, teachers, travel/tourism promoters, military officers, and missionaries.

All program-level Admissions and Progression Requirements are in addition to the University of North Carolina at Charlotte Admission Requirements.

## Admission Requirements

### Freshmen

- See University Admission Requirements
- Minimum GPA: 2.0; Students with GPA below 2.0 should consult with departmental advisor
- Transferable Credit Hours: 24

### Transfers

- See University Admission Requirements
- Minimum GPA: 2.0
- Transferable Credit Hours: 24

### Currently Enrolled Students

- *Declaration of Major*: Change of Major form accepted year-round. Orientation/advising session is required after declaration.

## Degree Requirements

A Major in Global Studies requires a minimum of 30 credit hours in courses approved for Global Studies credit. Majors must also complete related work in foreign language and an international experience as stipulated in the core curriculum. Each student, in consultation with an advisor, will prepare a Plan of Study for completion of these requirements upon declaration of the major.

### General Education Requirements

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

The Department of Global Studies offers a Global Social Science (GLST 1501) general education course, which is open to all students within and outside the department. GLST 1501 is required of all Global Studies Majors and Minors.

### Foreign Language Courses

Students are expected to demonstrate competency in a foreign language appropriate to their selected concentration by completing the equivalent of two courses at the 3000-level or above, or demonstrating proficiency at the 4000-level. Language courses at the 3000-level offered in English do not apply to the foreign language requirement.

### Core Courses (6 credit hours)

GLST 1501 - Global Social Science: Globalization and Interdependence (3)
GLST 2112 - Problems in Globalization (3)

### Concentration Courses (12 credit hours)

***Required Concentration Course (3 credit hours)***
GLST 2141 - Introduction to Global Culture and Identity (3)

***Elective Concentration Courses (9 credit hours)***
*Select three of the following, two of which must be GLST courses:*
ANTH 2122 - Beliefs, Symbols, and Rituals (3)
ANTH 2123 - Women in Cross-Cultural Perspective (3)
or WGST 2123 - Women in Cross-Cultural Perspective (3)
COMM 3126 - Globalization and Digital Media (3)
FREN 2209 - French Civilization (3)
GLST 3000 - Topics in International Studies (1 to 3)
GLST 3006 - Topics in Global Culture and Identity (3)
GLST 3112 - Globalization and Culture (3)
or ANTH 3112 - Globalization and Culture (3)
GLST 3121 - Gender and Globalization (3)
GLST 3122 - Transnational Feminisms (3)
GLST 3123 - Global Masculinities (3)
GLST 3124 - Solidarity Across Borders (3)
GLST 3128 - Belonging: People, Place, Displacement (3)
GLST 3129 - Global Racisms (3)
HIST 2152 - European Women's and Gender History (3)
JAPN 2209 - Introduction to Japanese Civilization and Culture (3)
JAPN 3060 - Topics in Japanese Film (3)
JAPN 3140 - Anime: Genres, Themes and History (3)
RELS 2131 - Islam (3)
RELS 2154 - Hinduism (3)
RUSS 3209 - Russian Civilization and Culture (3)
SPAN 3209 - Spanish Civilization and Culture (3)
WGST 2170 - Gender and Globalization (3)

Restricted Elective Courses (9 credit hours)
*Select three elective courses outside of the above selected concentration.*
GLST XXXX - International Studies Elective (3)
GLST XXXX - International Studies Elective (3)
GLST XXXX - International Studies Elective (3)

### Seminar Course (3 credit hours)

GLST 4601 - International Studies Seminar (3)

### Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### International Experience

Students are required to complete an international experience related to the area studies concentration they have selected. This may be fulfilled through participation in a formal education abroad program or through foreign- based work, service, or internship activities. This experience must be specified and approved by an advisor. Academic credit hours earned may be applied to the requirements of the major. A U.S.-based experience of an international nature or prior international experience may be considered in certain extreme circumstances, subject to the approval of an advisor.

### Second Majors

Students pursuing a second major may apply up to 9 credit hours from courses in that major toward requirements for the major in Global Studies. Exceptions may be approved by an advisor upon consultation with the other program in question. Without exception, courses that are used to fulfill the foreign language requirement for Global Studies cannot be used to fulfill other requirements for the major.

## Degree Total = 120 Credit Hours

### Progression Requirements
A GPA of 2.0 is required.

### Honors Program
For details about the Honors Program in Global Studies, visit the program page (honorscollege.charlotte.edu/).

# Bachelor of Arts in Global Studies *with Concentration in Holocaust, Genocide, and Human Rights*

The Global Studies major draws upon the faculty and courses of the Department of Global Studies, as well as a number of other departments, and is structured to give students skills and knowledge to understand and analyze societies outside the United States in the context of the rapidly changing and increasingly interdependent world. By integrating courses on world affairs from a variety of disciplines, the program allows students interested in studying other cultures and societies to focus attention across traditional disciplinary boundaries. Global Studies is of particular value to those with career objectives in government, law, journalism, teaching, business, trade, or military service. It also serves those who will seek employment with international organizations such as the United Nations or with non-governmental agencies with an international or cross-cultural focus.

Global Studies graduates work for employers such as local, state, and federal governments; international organizations; private sector businesses; nonprofit organizations; colleges and universities; elementary and secondary schools; think tanks; the military; newspapers and magazines; law firms; financial institutions; public relations firms; and the travel industry. They also find careers as foreign service officers, policy analysts, international trade specialists, diplomats, United Nations staffers, lobbyists, intelligence specialists, translators/ interpreters, US Customs officers, cultural liaisons, journalists, business managers, government or business consultants, ESL administrators/instructors, professors, teachers, travel/tourism promoters, military officers, and missionaries.

## Admission Requirements

### Freshmen
- See University Admission Requirements
- *Minimum GPA:* 2.0. Students with GPA below 2.0 should consult with departmental advisor.

### Transfers
- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

### Currently Enrolled Students
- *Declaration of Major:* Change of Major form accepted year-round. Orientation/advising session is required after declaration.

## Degree Requirements
A Major in Global Studies requires a minimum of 30 credit hours in courses approved for Global Studies credit. Majors must also complete related work in foreign language and an international experience as stipulated in the core curriculum. Each student, in consultation with an advisor, will prepare a Plan of Study for completion of these requirements upon declaration of the major.

### General Education Courses (31-32 credit hours)
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

The Department of Global Studies offers a Global Social Science (GLST 1501) general education course, which is open to all students within and outside the department. GLST 1501 is required of all Global Studies Majors and Minors.

### Foreign Language Courses
Students are expected to demonstrate competency in a foreign language appropriate to their selected concentration by completing the equivalent of two courses at the 3000-level or above or demonstrating proficiency at the 4000-level. Language courses at the 3000-level offered in English do not apply to the foreign language requirement.

### Core Course (6 credit hours)
GLST 1501 - Global Social Science: Globalization and Interdependence (3)
GLST 2112 – Problems in Globalization (3)

### Concentration Courses (12 credit hours)
***Foundation Concentration Course (3 credit hours)***
*Select one of the following:*
HGHR 2100 - Introduction to Holocaust, Genocide, and Human Rights (3)
GLST 2100 - Introduction to Holocaust, Genocide, and Human Rights (3)

***Elective Concentration Courses (9 credit hours)***
*Select three of the following, two of which must be GLST courses:*
AFRS 3260 - Slavery, Racism, and Colonialism in the African Diaspora (3)
AFRS 3278 - Race in the History of Brazil (3)
GERM 3650 - The Holocaust in German Literature and Film (3)
GLST 3000 - Topics in International Studies (1 to 3) *(if designated for concentration)*

GLST 3002 - Topics in Holocaust, Genocide, and Human Rights Studies (3)
GLST 3173 - Resistance During the Holocaust (3)
GLST 3174 - The U.S.-Vietnam War and the Global Upheaval of the 1960s-1970s (3)
GLST 3137 - International Human Rights (3)
or LEGL 3137 - International Human Rights (3)
or POLS 3137 - International Human Rights (3)

GLST 3171 - Comparative Genocide (3)
or HIST 3171 - Comparative Genocide (3)
GLST 3172 - Political Repression and Rebellion in the Contemporary World (3)
or HIST 3172 - Political Repression and Rebellion in the Contemporary World (3)
HGHR 3050 - Topics in Holocaust, Genocide, and Human Rights Studies (3)
HIST 2105 - American Slavery and Emancipation (3)
HIST 3147 - The Third Reich (3)
HIST 3148 - The Holocaust (3)
HIST 3218 - Racial Violence, Colonial Times to Present (3)
POLS 3162 - International Law (3)
RELS 3230 - Race, Religion, and Murder (3)

**Restricted Elective Courses (9 credit hours)**
*Select three elective courses outside of the above selected concentration.*

GLST xxxx - International Studies Elective (3)
GLST xxxx - International Studies Elective (3)
GLST xxxx - International Studies Elective (3)

**Seminar Course (3 credit hours)**
GLST 4601 - International Studies Seminar (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

**International Experience**
Students are required to complete an international experience related to the area studies concentration they have selected. This may be fulfilled through participation in a formal education abroad program or through foreign- based work, service, or internship activities. This experience must be specified and approved by an advisor. Academic credit hours earned may be applied to the requirements of the major. A U.S.-based experience of an international nature or prior international experience may be considered in certain extreme circumstances, subject to the approval of an advisor.

### Second Majors
Students pursuing a second major may apply up to 9 credit hours from courses in that major toward requirements for the major in Global Studies. Exceptions may be approved by an advisor upon consultation with the other program in question. Without exception, courses that are used to fulfill the foreign language requirement for Global Studies cannot be used to fulfill other requirements for the major.

### Degree Total = 120 Credit Hours

### Progression Requirements
A GPA of 2.0 is required.

## Bachelor of Arts in Global Studies *with Concentration in Peace and Conflict*
The Global Studies major draws upon the faculty and courses of the Department of Global Studies, as well as a number of other departments, and is structured to give students skills and knowledge to understand and analyze societies outside the United States in the context of the rapidly changing and increasingly interdependent world. By integrating courses on world affairs from a variety of disciplines, the program allows students interested in studying other cultures and societies to focus attention across traditional disciplinary boundaries. Global Studies is of particular value to those with career objectives in government, law, journalism, teaching, business, trade, or military service. It also serves those who will seek employment with international organizations such as the United Nations or with non-governmental agencies with an international or cross-cultural focus.

Global Studies graduates work for employers such as local, state, and federal governments; international organizations; private sector businesses; nonprofit organizations; colleges and universities; elementary and secondary schools; think tanks; the military; newspapers and magazines; law firms; financial institutions; public relations firms; and the travel industry. They also find careers as foreign service officers, policy analysts, international trade specialists, diplomats, United Nations staffers, lobbyists, intelligence specialists, translators/ interpreters, US Customs officers, cultural liaisons, journalists, business managers, government or business consultants, ESL administrators/instructors, professors, teachers, travel/tourism promoters, military officers, and missionaries.

### Admission Requirements
**Freshmen**
- See University Admission Requirements
- *Minimum GPA:* 2.0. Students with GPA below 2.0 should consult with departmental advisor.

**Transfers**
- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

**Currently Enrolled Students**
- *Declaration of Major:* Change of Major form accepted year-round; orientation/advising session required after declaration.

### Degree Requirements
A Major in Global Studies requires a minimum of 30 credit hours in courses approved for Global Studies credit. Majors must also complete related work in foreign language and an international experience as stipulated in the core curriculum. Each student, in consultation with an

advisor, will prepare a Plan of Study for completion of these requirements upon declaration of the major.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

The Department of Global Studies offers a Global Social Science (GLST 1501) general education course, which is open to all students within and outside the department. GLST 1501 is required of all Global Studies Majors and Minors.

**Foreign Language Courses**
Students are expected to demonstrate competency in a foreign language appropriate to their selected concentration by completing the equivalent of two courses at the 3000-level or above or demonstrating proficiency at the 4000-level. Language courses at the 3000-level offered in English do not apply to the foreign language requirement.

**Core Course (6 credit hours)**
GLST 1501 - Global Social Science: Globalization and Interdependence (3)
GLST 2112 – Problems in Globalization (3)

**Concentration Courses (12 credit hours)**
***Foundation Concentration Course (3 credit hours)***
GLST 2131 - Introduction to Peace and Conflict Studies (3)

***Elective Concentration Courses (9 credit hours)***
*Select three of the following, two of which must be GLST courses:*
AFRS 2207 - Pan-Africanism (3)
AFRS 4105 - African International Relations (3)
or POLS 3169 - African International Relations (3)
ANTH 3136 - Globalization and Resistance (3)
GLST 2101 - Introduction to African Studies (3)
GLST 3000 - Topics in International Studies (1 to 3)
GLST 3003 - Topics in Peace and Conflict Studies (3)
GLST 3111 - Politics and Culture in Literature (3)
GLST 3116 - Cultures and Conflicts (3)
GLST 3117 - Narratives and Conflicts (3)
or ANTH 3117 - Narratives and Conflicts (3)
GLST 3119 - Human Rights and Conflict (3)
GLST 3131 - Diplomacy in a Changing World (3)
GLST 3132 - Peacebuilding in Divided Societies (3)
GLST 3133 - Post-Conflict Reconciliation and Justice (3)
GLST 3134 - Ethnic Conflict in a Changing World (3)
GLST 3136 - Globalization and Resistance (3)
GLST 3161 - Migration and Borders in a Global World (3)
GLST 3155 - Global Citizenship (3)
HIST 2211 - Modern Africa (3)
HIST 2216 - The Modern Middle East (3)
or RELS 2216 - The Modern Middle East (3)
HIST 3141 - World War I (3)
HIST 3147 - The Third Reich (3)
HIST 3165 - History of Modern Japan (3)
HIST 3179 - Authoritarianism in Latin America (3)
or LTAM 3279 - Authoritarianism in Latin America (3)
LTAM 3144 - Latin American Politics (3)
or POLS 3144 - Latin American Politics (3)
POLS 3135 - Terrorism (3)
POLS 3141 - European Politics (3)
POLS 3143 - African Politics (3)
POLS 3148 - Chinese Politics (3)
POLS 3152 - International Organizations (3)
POLS 3153 - European Union (3)
POLS 3165 - East Asia in World Affairs (3)

**Restricted Elective Courses (9 credit hours)**
*Select three elective courses outside of the above selected concentration.*

GLST xxxx - International Studies Elective (3)
GLST xxxx - International Studies Elective (3)
GLST xxxx - International Studies Elective (3)

**Seminar Course (3 credit hours)**
GLST 4601 - International Studies Seminar (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

**International Experience**
Students are required to complete an international experience related to the area studies concentration they have selected. This may be fulfilled through participation in a formal education abroad program or through foreign- based work, service, or internship activities. This experience must be specified and approved by an advisor. Academic credit hours earned may be applied to the requirements of the major. A U.S.-based experience of an international nature or prior international experience may be considered in certain extreme circumstances, subject to the approval of the Department.

### Second Majors
Students pursuing a second major may apply up to 9 credit hours from courses in that major toward requirements for the major in Global Studies. Exceptions may be approved by an advisor upon consultation with the other program in question. Without exception, courses that are used to fulfill the foreign language requirement for Global Studies cannot be used to fulfill other requirements for the major.

### Degree Total = 120 Credit Hours

### Progression Requirements
A GPA of 2.0 is required.

## Honors Program in Global Studies
The Honors Program in Global Studies provides select Global Studies majors with the opportunity to deepen their understanding of the field. Upon successful completion of the program will graduate with an honors notation on their official transcript. Students admitted to the program will conduct intensive research on a topic relevant to Global Studies and

their concentration within the major, produce a thesis paper that demonstrates a high level of academic rigor and creative thinking, and present and defend it to a committee of Global Studies faculty for final evaluation.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

Global Studies majors are eligible to apply for departmental honors if they meet the following requirements:

- Minimum 3.5 GPA in Global Studies courses
- Minimum overall GPA of 3.25
- Completed the International Experience requirement

Admission to the Honors Program is by permission of the Department of Global Studies. Eligible students should submit a letter of intent and one-page research proposal to the Director of Undergraduate Studies by Week 6 of the semester in which they are taking the Senior Seminar. The Director of Undergraduate Studies will review applications and determine admission to the Honors Program.

### Course Requirements

In order to graduate with departmental honors, students must:

- Complete the course requirements for the Global Studies major
- Complete GLST 4601 by producing a detailed research proposal and literature review; this will serve as a prerequisite for advancement to GLST 4701
- Complete GLST 4701 by writing an original research/thesis paper focused on their major concentration and successfully defending the thesis before a three-person Honors Committee of Global Studies faculty

The Honors project should produce a final paper of at least 20-25 pages and address a well-defined problem or research question with the goal of developing greater understanding of a theoretical or practical global issue.

Students must formally apply for Honors Candidacy through the Honors College by Reading Day the semester prior to graduation.

### Progression Requirements

In order to graduate with Honors in Global Studies, students must:

- Maintain a minimum GPA of 3.5 in the Global Studies major
- Maintain a minimum GPA of 3.25 overall
- Achieve a grade of A in GLST 4601
- Pass the thesis defense and achieve a grade of A in GLST 4701

## Minor in Holocaust, Genocide, and Human Rights Studies

The interdisciplinary Minor in Holocaust, Genocide, and Human Rights Studies (HGHR) consists of a minimum of 18 credit hours, including a 3-hour introductory course and 15 hours divided among subjects in Holocaust Studies and subjects in Genocide and Human Rights Studies. Students must take at least two courses from each subject area.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

### Minor Requirements

**Introductory Course (3 credit hours)**
HGHR 2100 - Introduction to Holocaust, Genocide, and Human Rights Studies (3)

**Holocaust Studies Courses (minimum 6 credit hours)**
Students may choose from the following courses to satisfy the requirement of subjects in this area. An advisor for the Minor in HGHR may give permission for other courses to count toward fulfilling this requirement.

HGHR 3050 - Topics in Holocaust, Genocide, and Human Rights (3) *(appropriate sections)*
HGHR 3110 - Resistance During the Holocaust (3)
GERM 3150 - The Holocaust Through German Literature and Film (3)
HIST 3147 - The Third Reich (3)
HIST 3148 - The Holocaust (3)

**Genocide and Human Rights Studies Courses (minimum 6 credit hours)**
*Select courses from the following to satisfy requirements of subjects in this area. An advisor for the Minor in HGHR may give permission for other courses to count toward fulfilling this requirement.*

AFRS 3218 - Racial Violence, Colonial Times to Present (3)
or HIST 3218 - Racial Violence, Colonial Times to Present (3)
AFRS 3260 - Slavery, Racism, and Colonialism in the African Diaspora (3)
AFRS 3278 - Race in the History of Brazil (3)
or HIST 3178 - History of Brazil (3)
or LTAM 3278 - History of Brazil (3)
GLST 3000 - Topics in International Studies (3) *(appropriate sections)*
GLST 3137 - International Human Rights (3)
or POLS 3137 International Human Rights (3)
GLST 3171 - Comparative Genocide (3)
or HIST 3171 - Comparative Genocide (3)
GLST 3172 - Political Repression and Rebellion in the Contemporary World (3)
or HIST 3172 - Political Repression and Rebellion in the Contemporary World (3)
HGHR 3050 - Topics in Holocaust, Genocide, and Human Rights (3) *(appropriate sections)*
HGHR 3220 - The U.S.-Vietnam War and the Global Upheaval of the 1960s-1970s (3)
HIST 2105 - American Slavery and Emancipation (3)
HIST 3180 - Caribbean History (3)
or LTAM 3220 - The Caribbean from Slavery to Independence (3)
POLS 3162 - International Law (3)
RELS 3150 - African American Church and Civil Rights (3)
or AFRS 3150 - African American Church and Civil Rights (3)
RELS 3230 - Race, Religion, and Murder (3)

### Minor Total = 18 Credit Hours

# Minor in Global Studies

A Minor in Global Studies requires completion of 18 credit hours (plus 6 to 8 credit hours of foreign language courses at the 2000-level). All students pursuing the minor must have their curriculum approved by an advisor.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

See University Admission Requirements

## Minor Requirements

**Foundation Course (3 credit hours)**

GLST 1501 - Global Social Science: Globalization and Interdependence (3)

**Foreign Language Courses (6-8 credit hours)**

Select 6-8 credit hours of foreign language courses at the 2000-level, typically the 2201 and 2202 courses. If 2201 and 2202 courses are not available, 1201 and 1202 courses in a second appropriate language may be considered, if approved by a departmental advisor.

**Elective Courses (15 credit hours)**

*Select from the following:*

COMM 3126 - Globalization and Digital Media (3)
GLST 2100 - Introduction to Holocaust, Genocide, and Human Rights Studies (3)
or HGHR 2100 - Introduction to Holocaust, Genocide, and Human Rights Studies (3)
GLST 2121 - Introduction to Development Studies (3)
GLST 2131 - Introduction to Peace and Conflict Studies (3)
or ANTH 2131 - Peace, Conflict, and Identity (3)
GLST 2201 - Introduction to Asian Studies (3)
GLST 2301 - Introduction to European Studies (3)
GLST 3000 - Topics in International Studies (3)
GLST 3111 Politics and Culture in Literature (3)
GLST 3112 - Globalization and Culture (3)
or ANTH 3112 Globalization and Culture (3)
GLST 3116 - Cultures and Conflicts (3)
GLST 3117 - Narratives and Conflicts (3)
or ANTH 3117 - Narratives and Conflicts (3)
GLST 3125 - Food and Globalization (3)
or ANTH 3125 - Food and Globalization (3)
GLST 3127 - Global Media (3)
GLST 3131 - Diplomacy in a Changing World (3)
or POLS 3159 - Diplomacy in a Changing World (3)
GLST 3135 - Origins of Globalization (3)
ANTH 3135 - Origins of Globalization (3)
GLST 3136 - Globalization and Resistance (3)
or ANTH 3136 - Globalization and Resistance (3)
GLST 3137 - International Human Rights (3)
or POLS 3137 - International Human Rights (3)
GLST 3151 - International Political Economy (3)
or POLS 3151 - International Political Economy (3)
GLST 3161 - Migration and Borders in a Global World (3)
GEOG 3161 - Migration and Borders in a Global World (3)
GLST 3162 - Europe and the World (3)
or GEOG 3162 - Europe and the World (3)
GLST 3171 - Comparative Genocide (3)
or HIST 3171 - Comparative Genocide (3)
GLST 3172 - Political Repression and Rebellion in the Contemporary World (3)
or HIST 3172 - Political Repression and Rebellion in the Contemporary World (3)

*Note: Lists are subject to additions and deletions. Other courses may be considered, subject to approval of an advisor.*

## Minor Total = 18 Credit Hours

## Education Abroad

Although not required for the minor, education abroad is encouraged and recommended. Charlotte Global offers a range of programs of varying duration. Academic credit hours earned may be applied to the requirements of the minor, subject to approval by an advisor.

## Progression Requirements

A GPA of 2.0 is required.

# Department of History

history.charlotte.edu

## Undergraduate Programs

- B.A. in History
  - History, Comprehensive Secondary Social Studies Teacher Licensure
  - Honors Program
- Minor in History
- Early Entry: M.A. in History

History is the broadest and most integrative of all disciplines concerned with human beings and society. Today's historians use the research tools of the social sciences to understand and explain major events and changes in human experience over time. Yet history has always been considered one of the humanities, and it remains so because historians are concerned with issues of value and meaning, with the significance that historical events had for the lives of individuals and groups. Students of history gain an understanding of people, groups, and society and a sensitivity both to detailed research and the "big picture." Through the study of history, students can become better prepared for life in a rapidly changing world and a rapidly evolving economy.

Professions like law and medicine have always considered history an ideal undergraduate major because it emphasizes the essential intellectual skills: critical thinking, research, writing, and speaking. For these reasons history also remains a sound preparation for almost any undergraduate and a good choice for the typical student in America, who graduates with a basic education rather than specific job training. Whether students plan to teach, work in archives or museums, or pursue a career in government, law, international organizations, or business, the skills learned as a historian will prove invaluable. The Department of History offers majors the premier track in Comprehensive Social Studies Teacher Licensure. Through the master's program, history majors can pursue their interests at the graduate level. (See the *UNC Charlotte Graduate Catalog*.)

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

**Study Abroad**
Arrangements can be made for study abroad in Asia, Africa, Canada, Europe, Latin America, or the Middle East.

## Bachelor of Arts in History

A Major in History leading to the B.A. degree requires a minimum of 30 credit hours of history courses.

### Admission Requirements

**Freshmen and Transfers**
See University Admission Requirements

- *Minimum GPA:* 2.0
- *Declaration of Major:* Advising session required when declaring major
- Transfer students are required to take at least 15 credit hours of History major coursework at UNC Charlotte

### Currently Enrolled Students

- See University Admission Requirements
- To declare the History major, please visit the Department of History Undergraduate Advising.
- Overall GPA must be 2.0 in order to change majors. An advisor will contact you for a meeting.

### Degree Requirements

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

The History Department offers the Issues in Global History (HIST 1502) and the Issues in United States History (HIST 1575) general education courses. These are open to all students within and outside the department. Majors may apply 6 credits from general education courses to their degree requirements.

**Foreign Language Requirement (0-8 credit hours)**
For details on required courses, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirement.

**Introductory Courses (6 credit hours)**
HIST 1502 - Global Arts/Humanities: Issues in Global History (3)
HIST 1575 - American Democracy's Past and Promise (3)

**History Methodology Sequence Courses (9 credit hours)**
The courses in this sequence cannot be taken at the same time. A grade of C or above in HIST 3600 is required to progress to HIST 400x. A grade of C or above in HIST 400x is required to progress to HIST 4600.

***History Skills Seminar (3 credit hours)***
HIST 3600 - History Skills Seminar (3)

***Historiography Seminar (3 credit hours)***
*Select one of the following:*
HIST 4000 - Topics in American Historiography (3)
HIST 4001 - Topics in European Historiography (3)

HIST 4002 - Topics in Non-Western Historiography (3)
HIST 4003 - Topics in Transnational Historiography (3)
HIST 4797 - Topics in Honors Historiography and Methodology (3)
*(permission required)*

***Senior Seminar (3 credit hours)***
*Select one of the following:*
HIST 4600 - Senior Research Seminar (3)
HIST 4799 - Honors Research and Thesis (3)

**Restricted Elective Courses (15 credit hours)**
***History 1000/2000/3000 Level Course (3 credit hours)***
HIST 1xxx/2xxx/3xxx - History Elective (3)

***History 2000/3000 Level Courses (6 credit hours)***
HIST 2xxx/3xxx - History Elective (3)
HIST 2xxx/3xxx - History Elective (3)

***History 3000 Level Courses (6 credit hours)***
HIST 3xxx - History Elective (3)
HIST 3xxx - History Elective (3)

**Non-Western History Requirements**
*These courses also fulfill requirements in the History Methodology Sequence and/or Restrictive Elective requirements. Select two of the following:*
HIST 2002 - Topics in Non-Western History (3)
HIST 2201 - History of Modern Asia (3)
HIST 2206 - Colonial Latin America (3)
HIST 2207 - Modern Latin America (3)
HIST 2208 - Privateers, Buccaneers, and Pirates of the Caribbean, 1523-1726 (3)
HIST 2209 - Cultures, Contacts, and Conflicts in the Colonial Caribbean, 1492-1898 (3)
HIST 2210 - Pre-Colonial Africa (3)
HIST 2211 - Modern Africa (3)
HIST 2215 - A History of Muslim Societies (3)
HIST 2216 - The Modern Middle East (3)
HIST 3002 - Topics in Non-Western History (3)
HIST 3010 - Non-Western History and Culture through Film (3)
HIST 3154 - Globalization in African History (3)
HIST 3155 - Health and Healing in Africa (3)
HIST 3165 - History of Modern Japan (3)
HIST 3168 - Gandhi and Radical Dissent in the Modern World (3)
HIST 3169 - Central Asia from 1800 to the Present (3)
HIST 3176 - History of Mexico (3)
HIST 3178 - History of Brazil (3)
HIST 3179 - Authoritarianism in Latin America (3)
HIST 3180 - Caribbean History (3)
HIST 3181 - Afro-Latin American History (3)
HIST 3190 - Slavery, Racism, and Colonialism in the African Diaspora (3)
HIST 4002 - Topics in Non-Western Historiography (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

**Senior Seminar Course (3 credit hours)**
HIST 4600 - Senior Research Seminar (3)

### Degree Total = 120 Credit Hours

### Progression Requirements
Students must achieve a cumulative GPA of 2.0 in all history courses. Grades of C or above are required in HIST 3600 and either HIST 4000, HIST 4001, HIST 4002, or HIST 4003.

## Bachelor of Arts in History *with Comprehensive Secondary Social Studies Teacher Licensure*
The Department of History, in collaboration with the College of Education, offers the premier track to a North Carolina Professional Licensure III status in History and Social Studies. The coursework for this licensure includes nearly equal numbers of content area courses in history and affiliated social studies supervised by the Department of History, and education courses supervised by the Department of Middle, Secondary, and K-12 Education. Students interested in teacher licensure should declare their intent with the Department of History as soon as possible to prevent unnecessary delays.

### Admission Requirements
**Freshmen and Transfers**
- See University Admission Requirements
- *Minimum GPA:* 2.0
- Transfer students are required to take at least 15 hours of history major coursework at UNC Charlotte

**Currently Enrolled Students**
- *Declaration of Major:* Advising session required while declaring major

**Minor in Secondary Education**
Students must have a Minor in Secondary Education to obtain teaching licensure.

*Admissions Requirements - Minor*
- 30 earned credit hours with 2.7 overall GPA
- Complete MDSK 2100 and the Praxis Core test

*Graduation Requirements - Minor*
- 2.75 overall GPA and in content background/licensure courses (with grades of C or above)

### Currently Enrolled Students
- To declare the History major, please visit the Department of History Undergraduate Advising.
- Overall GPA must be 2.0 in order to change majors. An advisor will contact you for a meeting.

### Degree Requirements
A Major in History leading to the B.A. degree requires a minimum of 30 credit hours of history courses. Six (6) of these hours must be in non-western history (either as HIST 400X or 2000/3000 Restricted Elective). In order to attain a History Comprehensive Secondary Social Studies

Licensure, candidates must declare a Minor in Secondary Education in addition to fulfilling content background requirements in Social Studies.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

The History Department offers the Issues in Global History (HIST 1502) and the Issues in United States History (HIST 1575) general education courses. These are open to all students within and outside the department. Majors may apply 6 credits from general education courses to their degree requirements.

**Foreign Language Requirement (0-8 credit hours)**
For details on required courses, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirement.

**Introductory Courses (6 credit hours)**
HIST 1502 - Global Arts/Humanities: Issues in Global History (3)
HIST 1575 - American Democracy's Past and Promise (3)

**History Methodology Sequence Courses (9 credit hours)**
The courses in this sequence cannot be taken at the same time. A grade of C or above in HIST 3600 is required to progress to HIST 400x. A grade of C or above in HIST 400x is required to progress to HIST 4600.

***History Skills Seminar (3 credit hours)***
HIST 3600 - History Skills Seminar (3)

***Historiography Seminar (3 credit hours)***
*Select one of the following:*
HIST 4000 - Topics in American Historiography (3)
HIST 4001 - Topics in European Historiography (3)
HIST 4002 - Topics in Non-Western Historiography (3)
HIST 4003 - Topics in Transnational Historiography (3)
HIST 4797 - Topics in Honors Historiography and Methodology (3) *(permission required)*

***Senior Seminar (3 credit hours)***
HIST 4600 - Senior Research Seminar (3)

**History Licensure Requirements (6 credit hours)**
*Comprehensive Secondary Education Social Studies Teacher Licensure students must pass the following courses:*
HIST 2050 - Themes in United States History (3)
HIST 2051 - Themes in European History (3)

**Restricted Elective Courses (15 credit hours)**
HIST 1xxx/2xxx/3xxx elective (3)
HIST 2xxx/3xxx elective (6)
HIST 3xxx elective (6)

**Social Studies Content Background Courses (12 credit hours)**
ECON xxxx - Economics Elective (3)
GEOG 1501 - Global Social Science: Global Geography (3)
POLS 1501 - Global Social Science: Introduction to Comparative Politics (3)
POLS 1575 - American Politics (3)

**Restricted Elective Courses (15 credit hours)**
*Select from the following. At least 6 credit hours must be in Non-Western History (Asia, Africa, Latin America, or Middle East).*

HIST 2000-3000 level (3)
HIST 2000-3000 level (3)
HIST 3000 level (3)
HIST 3000 level (3)
HIST 4000-4004 (3)

**Non-Western History Requirements**
*These courses also fulfill requirements in the History Methodology Sequence and/or Restrictive Elective requirements. Select two of the following:*
HIST 2002 - Topics in Non-Western History (3)
HIST 2201 - History of Modern Asia (3)
HIST 2206 - Colonial Latin America (3)
HIST 2207 - Modern Latin America (3)
HIST 2208 - Privateers, Buccaneers, and Pirates of the Caribbean, 1523-1726 (3)
HIST 2209 - Cultures, Contacts, and Conflicts in the Colonial Caribbean, 1492-1898 (3)
HIST 2210 - Pre-Colonial Africa (3)
HIST 2211 - Modern Africa (3)
HIST 2215 - A History of Muslim Societies (3)
HIST 2216 - The Modern Middle East (3)
HIST 3002 - Topics in Non-Western History (3)
HIST 3010 - Non-Western History and Culture through Film (3)
HIST 3154 - Globalization in African History (3)
HIST 3155 - Health and Healing in Africa (3)
HIST 3165 - History of Modern Japan (3)
HIST 3168 - Gandhi and Radical Dissent in the Modern World (3)
HIST 3169 - Central Asia from 1800 to the Present (3)
HIST 3176 - History of Mexico (3)
HIST 3178 - History of Brazil (3)
HIST 3179 - Authoritarianism in Latin America (3)
HIST 3180 - Caribbean History (3)
HIST 3181 - Afro-Latin American History (3)
HIST 3190 - Slavery, Racism, and Colonialism in the African Diaspora (3)
HIST 4002 - Topics in Non-Western Historiography (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

**Senior Seminar Course (3 credit hours)**
HIST 4600 - Senior Research Seminar (3)

## Pedagogical Theory and Praxis

**Minor in Secondary Education (32 credit hours)**
Students must have a Minor in Secondary Education to obtain teaching licensure.

*Admission Requirements*

- 30 earned credit hours with 2.7 overall GPA
- Complete MDSK 2100 and the Praxis Core test

*Graduation Requirements*

- 2.75 overall GPA and in content background/licensure courses (with grades of C or above)

See the Minor in Secondary Education in the College of Education section of this *Catalog* for more details. Licensure applications are the responsibility of the student and the Office of Teacher Education Advising and Licensure (TEAL) in the College of Education.

### Degree Total = 120 Credit Hours

### Progression Requirements

Students must achieve a cumulative GPA of 2.0 in all History courses. Grades of C or above are required in HIST 3600 and either HIST 4000, HIST 4001, HIST 4002, or HIST 4003. To be eligible for licensure, students must obtain a grade of C or above for all History, Social Studies, and Education courses, as well as a cumulative GPA of 2.7 or above for admission to the College of Education, and a 2.75 GPA in History and Social Studies coursework.

## Honors Program in History

The B.A. in History with History Honors is the highest distinction the Department of History offers. This Honors College-sanctioned accolade attests to a candidate's exemplary grade point average in their major, the completion of honors coursework; as well as the successful defense of a distinguished undergraduate thesis. Honors in History is a great preparation for graduate school, and/or a stellar addition to a student's resume.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

See University Admission Requirements

Entry into the History Honors Program and/or its courses is by permission of the Director of Honors in the Department of History. Majors who have completed HIST 3600 with a grade of A, and who have a GPA of 3.5 in History and a 3.0 overall at the time of application are welcome to apply. The Honors Committee will consider applications of majors who received a B in HIST 3600 and/or have an overall and History GPA of 3.0 or above, upon recommendation of their HIST 3600 instructor.

Because HIST 4797 is taught only in the Fall semester, students must complete their application to the History Honors Program well before their expected graduation. For this reason, qualified students are urged to discuss the History Honors Program with the Department's Honors Director early in their career.

**New Transfer**

See University Admission Requirements

### Currently Enrolled Students

HIST 4797 - Topics in Honors Historiography and Methodology (3)
HIST 4799 - Honors Research and Thesis (3)

Note: HIST 4799 is normally taken in the semester before graduation. Students considering Honors in History should note that HIST 4797 will fulfill the requirement for HIST 4000, HIST 4001, HIST 4002, or HIST 4003; and completion of HIST 4799 will fulfill the requirement for HIST 4600.

### Progression Requirements

To be awarded Honors in History, candidates must write an honors thesis of A quality (and thus a grade of A for HIST 4799) as judged by a committee of readers. In addition, the student must complete HIST 4797 and HIST 4799 with a 3.50 GPA or above, obtain a GPA of 3.50 or above in History courses, and an overall GPA of at least 3.0. Finally, students must formally apply and be approved for Honors Candidacy by the Honors College, a process which will be initiated as part of HIST 4797.

The honors notation will appear on a student's official transcript.

## Minor in History

A Minor in History consists of 18 credit hours.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

See University Admission Requirements

**New Transfer**

See University Admission Requirements

### Currently Enrolled Students

To declare the History major, please visit the Department of History Undergraduate Advising.

Overall GPA must be 2.0 in order to change majors. An advisor will contact you for a meeting.

### Minor Requirements

**Foundation Course (3 credit hours)**

HIST 1502 - Global Arts/Humanities: Issues in Global History (3)

**Restricted Elective Courses (15 credit hours)**

***History 1000/2000/3000 Level Courses (6 credit hours)***

HIST 1xxx/2xxx/3xxx - History Elective (3)
HIST 1xxx/2xxx/3xxx - History Elective (3)

***History 2000/3000 Level Courses (9 credit hours)***

HIST 2xxx/3xxx - History Elective (3)
HIST 2xxx/3xxx - History Elective (3)
HIST 2xxx/3xxx - History Elective (3)

***Non-Western Requirement***

*At least 3 Restricted Elective hours must be in Non-Western History (Asia, Africa, Latin America, or Middle East). Select one of the following:*

HIST 2002 - Topics in Non-Western History (3)
HIST 2201 - History of Modern Asia (3)
HIST 2206 - Colonial Latin America (3)
HIST 2207 - Modern Latin America (3)
HIST 2210 - Pre-Colonial Africa (3)

HIST 2211 - Modern Africa (3)
HIST 2215 - A History of Muslim Societies (3)
HIST 2216 - The Modern Middle East (3)
HIST 3002 - Topics in Non-Western History (3)
HIST 3010 - Non-Western History and Culture through Film (3)
HIST 3154 - Globalization in African History (3)
HIST 3155 - Health and Healing in Africa (3)
HIST 3165 - History of Modern Japan (3)
HIST 3168 - Gandhi and Radical Dissent in the Modern World (3)
HIST 3169 - Central Asia from 1800 to the Present (3)
HIST 3176 - History of Mexico (3)
HIST 3178 - History of Brazil (3)
HIST 3179 - Authoritarianism in Latin America (3)
HIST 3180 - Caribbean History (3)
HIST 3181 - Afro-Latin American History (3)
HIST 3190 - Slavery, Racism, and Colonialism in the African Diaspora (3)
HIST 4002 - Topics in Non-Western Historiography (3)

### Progression Requirements
Students must obtain a minimum GPA of 2.0 in HIST courses counted toward the minor. Before taking HIST 3600, students must have completed 9 credit hours of HIST courses. Transfer students are required to take at least 6 credit hours of Minor in History coursework at UNC Charlotte.

### Minor Total = 18 Credit Hours

## Early Entry: Master of Arts in History
Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

### Progression Requirements
- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree.

### Special Policies or Requirements
Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

## Accelerated Master's Program
***(for High School Seniors and UNC Charlotte Undergraduate Freshmen)***
Academically talented high school seniors and UNC Charlotte undergraduate freshmen are encouraged to apply to an Accelerated Master's Program to begin work toward both undergraduate and graduate degrees in their Freshman year.

### Admission Requirements
- See University Admission Requirements
- Minimum high school GPA of 3.75 (on a 4.0 scale)
- Minimum score of 1220 on SAT

### Progression Requirements
Students must maintain a strong academic record at both the undergraduate and graduate levels with a cumulative GPA of 3.0 or above.

### Special Policies or Requirements
Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on the Accelerated Master's Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/accelerated-masters.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# Office of Interdisciplinary Studies

interdisciplinarystudies.charlotte.edu

## Undergraduate Programs

- B.A. in Interdisciplinary Studies with Concentration in Capitalism Studies
- B.A. in Interdisciplinary Studies with Concentration in Film & Media Production
- B.A. in Interdisciplinary Studies with Concentration in Gerontology
- B.A. in Interdisciplinary Studies with Concentration in Health & Medical Humanities
- B.A. in Interdisciplinary Studies with Concentration in Human-Centered Artificial Intelligence
- B.A. in Interdisciplinary Studies with Concentration in Women's and Gender Studies
- B.A. in Latin American Studies
  - Honors Program
- Minor in American Studies
- Minor in Artificial Intelligence Fundamentals
- Minor in Capitalism Studies
- Minor in Film Studies
- Minor in Gerontology
- Minor in Health & Medical Humanities
- Minor in Latin American Studies
- Minor in Legal Studies
- Minor in Women's and Gender Studies
- Undergraduate Certificate in Video Production
- Early Entry: M.A. in Latin American Studies
- Early Entry: Graduate Certificate in Gender, Sexuality, and Women's Studies
- Early Entry: Graduate Certificate in Gerontology

From global health and climate change to social discrimination and economic inequality, the challenges we face in the world today require examination from diverse perspectives. Increasingly, scholars and policymakers are adopting interdisciplinary approaches that integrate data, methods, concepts, and theories from multiple fields to enhance our understanding of complex issues and develop effective solutions.

The Office of Interdisciplinary Studies collectively offers multiple undergraduate majors, minors, and certificates, along with early entry graduate programs. Interdisciplinary courses of study enable students to navigate across disciplines, create new connections, and innovate original solutions tailored for the modern workforce. Students customize their educational experiences by combining interdisciplinary interests with more traditional disciplinary programs. Interdisciplinary Studies offers a flexible path to accommodate your personal and professional goals.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

# American Studies

## Minor in American Studies

American Studies is an interdisciplinary program designed to develop in-depth knowledge of American society, past and present. Drawing its curriculum from approved courses in other departments and its own core courses, the program weaves traditionally divergent disciplines together so that students gain a broad understanding of American life and culture. The Minor in American Studies is open to students of all majors. Students may complete the program by fulfilling requirements for the minor.

A Minor in American Studies consists of 18 credit hours: 6 credit hours of American Studies courses and 12 credit hours of American Studies courses or approved American-content courses from other departments.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

See University Admission Requirements

### Minor Requirements

**Required Courses (6 credit hours)**

AMST 3100 - Introduction to American Studies (3)*
AMST 2xxx-4xxx - American Studies (3)

**AMST 3100 may be repeated for credit, as decades vary.*

**Elective Courses (12 credit hours)**

The following American-content courses have been approved for the minor. Because additions and deletions are made to correspond to current University offerings, students are advised to consult with the Program Director or Program Advisor. Other courses that do not appear on the list, especially topics and independent study courses, may be approved if they are pertinent to the student's program and deal with an American topic. A maximum of 6 credit hours of American-content courses may also be in the student's major. If the student has additional majors or minors, no more than 6 credit hours of American-content courses from each of these may apply to the Minor in American Studies. These stipulations include cross-listed courses regardless of the program designation under which the course was taken. Exceptions may be approved by the Program Director and, if necessary, upon consultation with the other program in question. *Note: Students exercising this option should be aware that the accuracy of the online degree audit may be affected.*

*Africana Studies*
AFRS 1100 - Introduction to Africana Studies (3)
AFRS 2105 - Black Images in the Media in the U.S. (3)
AFRS 2120 - African American Women (3)
AFRS 2160 - The African American Experience through Civil War (3)
AFRS 2215 - Black Families in the United States (3)
AFRS 2301 - Introduction to African American Literature (3)
AFRS 3101 - Perspectives on Race and Ethnicity in the US (3)
AFRS 3150 - The African American Church and Civil Rights (3)
AFRS 3179 - African American Political Philosophy (3)
AFRS 3218 - Racial Violence, Colonial Times to Present (3)
AFRS 3240 - Race and the Law (3)
AFRS 3250 - African Americans and Health Communication (3)
AFRS 2161 - The African American Experience: Civil War to Civil Rights (3)
AFRS 3159 - African American Poetry (3)

*American Studies*
AMST 2050 - Topics in American Studies (3)
AMST 2100 - Introduction to American Indian Studies (3)
AMST 3050 - Topics in American Studies (3)
AMST 3090 - Topics in American Film (3)
AMST 3100 - Introduction to American Studies (3)
AMST 3800 - Independent Study or Directed Reading in American Studies (1 to 3)
AMST 4050 - Topics in American Studies (3)

*Anthropology*
ANTH 2112 - North American Indians (3)
ANTH 2114 - Indians of the Southeastern United States (3)
ANTH 2152 - New World Archaeology (3)

*Business Law*
BLAW 3150 - Business Law I (3)
BLAW 3250 - Business Law II (3)

*Communication Studies*
COMM 2110 - Women and the Media (3)
COMM 2120 - Black Images in the Media in the U.S. (3)
COMM 3052 - Topics in Media & Technology Studies (3)
COMM 3115 - Health Communication (3)
COMM 3120 - Media, Technology & Communication (3)
COMM 3121 - Mass Communication and Society (3)
COMM 3130 - Rhetoric and Public Culture (3)
COMM 3131 - Black Culture and Communication (3)

*Computer Science*
ITSC 3688 - Computers and Their Impact on Society (3)

*Criminal Justice and Criminology*
CJUS 2320 - Introduction to Courts (3)
CJUS 2350 - Introduction to Corrections (3)
CJUS 2360 - Ethics and the Criminal Justice System (3)
CJUS 2361 - Juvenile Justice (3)
CJUS 3320 - Criminal Justice and the Law (3)
CJUS 3323 - Correctional Law (3)
CJUS 3340 - The Juvenile Offender (3)
CJUS 3351 - Community Corrections (3)
CJUS 3352 - Institutional Corrections (3)
CJUS 3353 - Juvenile Corrections (3)
CJUS 3362 - Famous Criminal Trials of the Twentieth Century (3)
CJUS 3364 - The Administration of Criminal Justice (3)
CJUS 3380 - Law Enforcement Behavioral Systems (3)
CJUS 4350 - Victims and the Criminal Justice System (3)
CJUS 4351 - Violence and the Violent Offender (3)
CJUS 4360 - Drugs, Crime, and the Criminal Justice System (3)

*Dance*
DANC 2226 - Vintage Jazz Dance (2)
DANC 2227 - Contemporary Jazz Dance (2)

*Economics*
ECON 1101 - Economics of Social Issues (3)
ECON 2101 - Principles of Economics - Macro (3)
ECON 2102 - Principles of Economics - Micro (3)
ECON 3115 - Money and Banking (3)
ECON 3122 - Intermediate Microeconomics (3)
ECON 3123 - Intermediate Macroeconomics (3)
ECON 3151 - Law and Economics (3)
ECON 4106 - Labor Economics (3)
ECON 4141 - Health Economics (3)

*English*
ENGL 2301 - Introduction to African American Literature (3)
ENGL 3132 - Introduction to Contemporary American English (3)
ENGL 4103 - American Children's Literature (3)
ENGL 4145 - Literature of the American South (3)
ENGL 3231 - Early African American Literature (3)
ENGL 3233 - American Literature of the Romantic Period (3)
ENGL 3234 - American Literature of the Realist and Naturalist Periods (3)
ENGL 3235 - Modern American Literature (3)
ENGL 3236 - African American Literature, Harlem Renaissance to Present (3)
ENGL 3237 - Modern and Recent U.S. Multiethnic Literature (3)
ENGL 4141 - American Literature of the Realist and Naturalist Periods (3)

*Geography*
GEOG 2140 - Geography of North Carolina (3)
GEOG 2155 - Geography of the U.S. and Canada (3)
GEOG 2160 - The South (3)
GEOG 2200 - Introduction to Urban Studies (3)
GEOG 3100 - Geography of Cities (3)
GEOG 3115 - Urban Transportation Problems (3)
GEOG 3200 - Land Use Planning (3)
GEOG 3205 - City Regions and Systems (3)
GEOG 3210 - Regional Planning (3)
GEOG 4108 - Sport, Place, and Development (3)
GEOG 4209 - Small Town and Community Planning (3)

*Gerontology*
GRNT 2100 - Aging and the Lifecourse (3) (SL)
GRNT 3267 - Sociology of Dying, Death and Bereavement (3)
GRNT 4260 - Women: Middle Age and Beyond (3)

*History*
HIST 1575 - American Democracy's Past and Promise (3)
HIST 2101 - American Business History (3)
HIST 2105 - American Slavery and Emancipation (3)

HIST 2120 - American Military History (3)
HIST 2150 - U.S. Women's History to 1877 (3)
HIST 2151 - U.S. Women's History Since 1877 (3)
HIST 2155 - Southern Women's History (3)
HIST 2160 - African American History, 1400-1860 (3)
HIST 2161 - African American History Since 1860 (3)
HIST 2297 - History of North Carolina, 1500 to the Present (3)
HIST 3000 - Topics in U.S. History (3)
HIST 3201 - Colonial America (3)
HIST 3202 - American Revolution, 1750-1815 (3)
HIST 3203 - The Antebellum U.S., 1800-1860 (3)
HIST 3211 - Civil War and Reconstruction, 1860-1877 (3)
HIST 3212 - History of the South to 1865 (3)
HIST 3213 - History of the South since 1865 (3)
HIST 3215 - Southerners (3)
HIST 3218 - Racial Violence, Colonial Times to Present (3)
HIST 3240 - Race and the Law (3)
HIST 3256 - United States and the World, 1898-Present (3)
HIST 3260 - The United States and Latin America (3)
HIST 3255 - Democracy in America: A Historical Perspective (3)
HIST 3288 - American West: From Lewis and Clark to Silicon Valley (3)
HIST 3381 - Museum Studies and Historic Sites (3)
HIST 3382 - Historic Preservation (3)
HIST 4000 - Topics in American Historiography (3)

***Music***
MUSC 1104 - The History of Rock Music (3)
MUSC 1105 - The Evolution of Jazz (3)

***Philosophy***
PHIL 3212 - American Philosophy (3)

***Political Science and Public Administration***
POLS 1575 - American Politics (3)
POLS 2120 - Introduction to Public Policy (3)
POLS 3010 - Topics in American Politics or Public Administration (1 to 4)
POLS 3103 - Public Opinion (3)
POLS 3104 - Mass Media (3)
POLS 3105 - Voting and Elections (3)
POLS 3108 - Social Movements and Interest Groups (3)
POLS 3109 - Political Parties (3)
POLS 3111 - The Congress (3)
POLS 3112 - The Presidency (3)
POLS 3114 - Constitutional Law and Policy (3)
POLS 3115 - Civil Rights and Liberties (3)
POLS 3116 - Judicial Process (3)
POLS 3119 - State and Local Government (3)
POLS 3121 - Urban Politics and Policy (3)
POLS 3123 - Urban Political Geography (3)
POLS 3124 - U.S. Domestic Policy (3)
POLS 3125 - Healthcare Policy (3)
POLS 3126 - Introduction to Public Administration (3)
POLS 3128 - Politics and Film (3)
POLS 3157 - American Foreign and Defense Policy (3)
POLS 3172 - African American Political Philosophy (3)
POLS 4110 - North Carolina Student Legislature (3)

***Religious Studies***
RELS 2108 - Religion in American Culture (3)
RELS 3137 - Religion in the African American Experience (3)
RELS 3150 - African American Church and Civil Rights (3)

***Sociology***
SOCY 2100 - Aging and the Lifecourse (3) (SL)
SOCY 2112 - Popular Culture (3)
SOCY 2132 - Sociology of Marriage and the Family (3)
SOCY 2169 - Sociology of Health and Illness (3)
SOCY 2171 - Social Problems (3)
SOCY 3110 - American Minority Groups (3)
SOCY 3132 - Sociology of Sport (3)
SOCY 3134 - Families and Aging (3)
SOCY 3173 - Criminology (3)
SOCY 3267 - Sociology of Dying, Death, and Bereavement (3)
SOCY 4110 - Sociology of Aging (3)
SOCY 4112 - Sociology of Work (3)
SOCY 4125 - Urban Sociology (3)
SOCY 4135 - Sociology of Education (3)
SOCY 4165 - Sociology of Women (3)
SOCY 4168 - Sociology of Mental Health and Illness (3)

***Social Work***
SOWK 3120 - Diversity and Populations-at-Risk (3)
SOWK 3201 - Foundations of Social Welfare (3)
SOWK 3202 - Social Welfare Policy (3)

***Women's and Gender Studies***
WGST 2110 - Women and the Media (3)
WGST 2120 - African American Women (3)
WGST 2150 - U. S. Women's History to 1877 (3)
WGST 2251 - U.S. Women's History since 1877 (3)
WGST 3102 - Changing Realities of Women's Lives (3)
WGST 3130 - Perspectives on Motherhood (3)
WGST 3140 - Domestic Violence (3)
WGST 3150 - Body Image (3)
WGST 3160 - Gender and Education (3)
WGST 3231 - Working Women/Women in Business (3)
WGST 4130 - Girl Studies in America (3)
WGST 4260 - Women: Middle Age and Beyond (3)

### Minor Total = 18 Credit Hours

### Progression Requirements
All students must have a GPA of at least 2.0 in courses applied to the minor.

# Artificial Intelligence

## Minor in Artificial Intelligence Fundamentals

The Minor in Artificial Intelligence Fundamentals equips students from all majors with foundational knowledge, ethical grounding, and practical skills in the responsible application of artificial intelligence within and across disciplines, preparing graduates to contribute meaningfully to an

AI-enabled workforce. To meet the rising demand for AI-literate professionals, this interdisciplinary minor introduces students to the foundations, tools, and ethical considerations of AI, giving them a broad understanding of a range of AI applications while enabling them to explore its potential in specific contexts.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

**Minor Requirements**

The Minor in Artificial Intelligence Fundamentals requires 15 credit hours. Students take two (2) core required courses. In addition to these two courses, students take three (3) elective courses from the list of courses offered across participating departments or programs. Some electives may require completion of one or both of the core courses in the minor or completion of specific prerequisites from other programs. (For example, if a student wishes to take MKTG 3219 as an elective, this may require completion of a requisite MKTG course to be eligible to enroll in MKTG 3219 elective).

Faculty teaching the elective will determine specific prerequisite requirements. This program recognizes both the breadth of AI literacy and depth of AI fluency, ensuring that students across arts, business, health, humanities, education, and STEM develop skills in AI principles and tools relevant to their disciplines.

**Required Core Courses (6 Credit Hours)**

HCAI 1100 - AI Fundamentals and Literacy for All (3)
HCAI 2101 - AI Application and Impact Across Disciplines (3)

**Elective Courses (9 Credit Hours)**

Students select nine (9) credit hours from the following list of elective courses.

ARCH 4050 - Architecture Topics (3)
Any Artificial Intelligence section topic of ARCH 4050 (attribute code ARIN)
ARTM 3005 - Topics in Digital Media (3)
BUSA 3000 - Topics in Business Analytics (3)
CMET 4135 - Construction Technologies and Innovation (3)
COSC 3000 - Topics in Science (1 to 4)
ECGR 4103 - Machine Vision, AI and Image Processing (3)
ECGR 4105 - Introduction to Machine Learning (3)
ECGR 4106 - Foundations of Deep Learning (3)
ECGR 4115 - Convex Optimization and AI Applications (3)
ECGR 4116 - Artificial Intelligence for Biomedical Applications (3)
ECGR 4117 - AI for Robotics and Automation (3)
ECGR 4127 - Machine Learning for the Internet of Things (3)
ECON 3090 - Topics in Economics (3)
ETEM 4131 - Intelligent Industrial Systems (3)
FINN 3000 - Topics in Finance (3)
HCAI 3111 - HCAI Social Science Applied (3)
HCAI 3112 - Applied Humanities in Artificial Intelligence Studies (3)
ITIS 4360 - Human-Centered Artificial Intelligence (3)
ITIS 4353 - Social Technology Design (3)
MKTG 3219 - AI in Marketing (3)
PHIL 3272 - Philosophy of Technology (3)
PHIL 3224 - Data Ethics (3)
PHIL 3253 - Science, Knowledge, and Values (3)
PHIL 3255 - Philosophy of Artificial Intelligence (3)
POLS 3030 - Topics in Comparative or International Politics (1 to 4)
Any Artificial Intelligence section topic of POLS 3030 (attribute code ARIN)
PSYC 2316 - Introduction to Cognitive Processes (3)
SEGR 2110 - Systems Engineering Concepts (3)
SEGR 3103 - Human System Interface (3)
SEGR 3105 - Computational Methods for Systems Engineering II (3)
SEGR 3110 - System Design and Deployment (3)
SEGR 4090 - Special Topics (1 to 6)
SEGR 4952 - Engineering System Optimization (3)

### Minor Total = 15 Credit Hours

### Progression Requirements

Students must attain an overall GPA of 2.0 in all coursework within the minor. No courses counted toward the minor may be taken Pass/No Credit

# Capitalism Studies

## Minor in Capitalism Studies

Capitalism Studies is an interdisciplinary approach to the study of the history and present-day workings of the modern global economy. The Minor in Capitalism Studies encourages students to gain a broad, well-rounded understanding of business, labor, government, and economics, by considering those subjects from multiple disciplines, across the social sciences and humanities. By adopting an interdisciplinary perspective, the minor requires students to combine quantitative and qualitative analysis; it encourages not only numeracy and financial literacy, but also historical, institutional, ethical, and cultural perspectives. It is designed to prepare students to work in a wide range of occupations in business, government, and the non-profit sector, and for the obligations of state, national, and global citizenship, in the 21st century.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

The minor is open to all students at UNC Charlotte.
See University Admissions Requirements.

**New Transfer**

See University Admissions Requirements

### Minor Requirements

**Introductory Courses (6 credit hours)**

CAPI 1501 - Global Social Science: Capitalism in Global Context (3)
or CAPI 1575 - Capitalism and Democracy (3)
ECON 1501 - Global Social Science: Economics of Global Issues (3)
or ECON 2101 Principles of Economics Macro (3)

**Elective Courses (12 credit hours)**

Select from the following approved elective courses. Other courses not on this list, such as topics courses directly related to the minor, courses cross-listed with those on the list, and independent study courses, may be approved by the Program Director. Students may count toward the

minor a maximum of 6 credit hours from any one major. In addition, students cannot take more than 6 credit hours from any one major area, such as AFRS, ANTH, ECON, GEOG, GLST, HIST, POLS, and SOCY.

AFRS 3264 - Business Culture and Entrepreneurship in Africa (3)
AFRS 3265 - African Economic Development (3)
ANTH 3113 - Economic Anthropology (3)
ANTH 3125 - Food and Globalization (3)
CAPI 2050 - Topics in Capitalism Studies (3)
CAPI 3050 - Topics in Capitalism Studies (3)
CAPI 3400 - Capitalism Studies Internship (3)
CAPI 3800 - Independent Study (3)
ECON 1501 - Global Social Science: Economics of Global Issues (3)
ECON 2101 - Principles of Economics - Macro (3)
ECON 2102 - Principles of Economics - Micro (3)
ECON 3171 - International Business Economics (3)
GEOG 2105 - Introduction to Economic Geography (3)
GEOG 3105 - Geography of the Global Economy (3)
GEOG 4240 - Geography of Knowledge and Information (3)
GERM 3670 - Seminar: German-American Culture for Business and Engineering I (English) (3)
GERM 3680 - Seminar: German-American Culture for Business and Engineering II (English) (3)
GLST 3135 - Origins of Globalization (3)
GLST 3151 - International Political Economy (3)
HIST 2101 - American Business History (3)
HIST 2105 - American Slavery and Emancipation (3)
HIST 3154 - Globalization in African History (3)
HIST 3270 - History of Capitalism in the U.S. (3)
JAPN 3130 - Business and Culture in Japan (3)
LTAM 3154 - Political Economy of Latin America (3)
PHIL 3271 - Social and Political Philosophy (3)
POLS 3151 - International Political Economy (3)
PSYC 2320 - Introduction to Industrial/Organizational Psychology (3)
PSYC 3121 - Organizational Psychology (3)
SOCY 4112 - Sociology of Work (3)
SOCY 4115 - Organizational Sociology (3)
SOCY 4116 - Sociology of Economic Life (3)
SOCY 4121 - Globalization and Development (3)
SPAN 3030 - Business and Culture in the Hispanic Caribbean Region (3)
WGST 3230 - Gender, Work, and Money (3)

### Minor Total = 18 Credit Hours

### Progression Requirements

Students are required to complete the Introductory courses (CAPI 1501 or CAPI 1575; and ECON 1501 or ECON 2101) with grades of C or above. An overall GPA of 2.0 in all courses that are counted toward the minor is also required, and no courses counted toward the minor may be taken as pass/no credit.

# Film Studies

## Minor in Film Studies

The interdisciplinary Minor in Film Studies allows students to develop knowledge of film and video as an art form while fulfilling the requirements for one of the approved degree programs at the University. The Film Studies Minor offers courses that focus directly or implicitly on cinema. The program is designed for students who wish to understand film better as an art form, as popular culture, and as a major medium of communication. The courses that satisfy the minor represent different aspects of film and video art: (1) Culture, (2) History, (3) Theory, and (4) Production. Students have the option to also earn a Certificate in Video Production with the Minor in Film Studies by completing additional coursework in production.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

### Minor Requirements

The Minor in Film Studies requires the completion of 18 credit hours of approved courses.

**Required Courses (3 credit hours)**
FILM 1502 - Global Arts/Humanities: Introduction to Film and Media Art (3)

**Elective History/Theory Courses (15 credit hours)**
*Select five of the following:*
AFRS 2105 - Black Images in the Media in the U.S. (3)
COMM 3050 - Topics in Communication Studies (3) *(Film topic)*
COMM 3052 - Topics in Media & Technology Studies (3)
COMM 3125 - New Media for Communications (3)
ENGL 2106 - Film Criticism (3)
ENGL 3050 - Topics in English (3) *(Film topic)*
FILM 3050 - Topics in Film Theory, Culture, and History (3) *(Includes screenwriting)*
FILM 3051 - Topics in Film Production (3) *(Includes video production)*
FILM 3120 - The Fundamentals of Video/Film Production (3)
FILM 3121 – Cinematic Storytelling (3)
FILM 3220 - Introduction to Screenwriting (3)
FILM 3221 - Advanced Screenwriting (3)
FILM 3800 - Directed Project in Film or Video (1 to 3)
FILM 4120 - Production and Directing (3)
FILM 4122 – Music Video Production (3)
FILM 4220 - Film Festivals & Impact Production (3)
FILM 4320 – Acting & Directing for Film (3)
FILM 4410 - Professional Internship in Film Studies (1 to 6)
GERM 3660 - Survey of German Film (3)
HIST 3010 - Non-Western History and Culture through Film (3)
HIST 3011 - History and Culture through Film (3)
JAPN 3060 - Topics in Japanese Film (3)
JAPN 4040 - Advanced Topics in Japanese Media and Culture (3)
LANG 3050 - Topics in Language, Literature, and Culture (3) *(French, German, Italian, Japanese, etc. film topic)*
LANG 3160 - European Cinema (3)
RELS 2246 - Jesus at the Movies (3)
RELS 3212 - Religion, Media, and Film (3)

THEA 2320 - Playwriting I (3)
THEA 4001 - Topics in Theatre (1 to 6) *(Fundamentals of Film Production and other topics)*

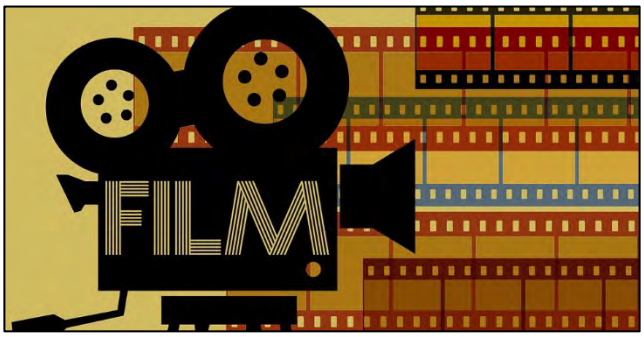
## Minor Total = 18 Credit Hours

## Progression Requirements

- Students are required to complete FILM 1502: Introduction to Film and Media as a foundational course which counts toward the Minor.
- Students may take both Interdisciplinary and Production Electives for the 5 courses (15 credits) required for the Minor.

## Special Policies or Requirements

- Students are able to count both FILM and FILM cross-listed courses toward their Minor courses. If a course is cross-listed with another program or department (i.e. AMST, ENGL). Students may sign up for either section and receive credit toward the Minor.
- Students are able to take multiple Topics in Film courses to count toward their Minor and/or Undergraduate Certificate (i.e. FILM 3050, FILM 3051). DegreeWorks recognizes up to two (2) Topics in Film courses automatically. Additional courses should receive Program approval prior to enrolling, and may require a waiver request to be recognized via DegreeWorks.
- Should a different program or department offer a film-based course which is not cross-listed with FILM, students will need to receive special approval from the Program to count toward the Minor and/or Undergraduate Certificate.




# Minor in Film Studies with an Undergraduate Certificate in Video Production

Students have the option to earn a Certificate in Video Production alongside the Minor in Film Studies.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

## Minor/Certificate Requirements

The Minor in Film Studies with a Certificate in Video Production requires the completion of 21 credit hours of approved courses.

**Required Courses (9 credit hours)**
FILM 1502 - Global Arts/Humanities: Introduction to Film and Media Art (3)
FILM 3120 - The Fundamentals of Video/Film Production (3)
FILM 3220 - Introduction to Screenwriting (3)

**Elective Production Courses (6 credit hours)**
*Select two of the following:*
FILM 3121 – Cinematic Storytelling (3)
FILM 3221 – Advanced Screenwriting (3)
FILM 3800 - Directed Project in Film or Video (1 to 3)
FILM 4120 - Production and Directing (3)
FILM 4220 - Film Festivals & Impact Production (3)
FILM 4410 - Professional Internship in Film Studies (1 to 6) *(No more than 3 credit hours may count toward the minor)*

**Elective History/Theory Courses (3 credit hours)**
*Select one of the following:*
FILM 3050 - Topics in Film Theory, Culture, and History (3) *(Screenwriting topics)*
FILM 3051 - Topics in Film Production (3) *(Video production topics)*
AMST 3090 - Topics in American Film (3)
AFRS 2105 - Black Images in the Media in the U.S. (3)
AFRS 3192 - African Cinema (3)
COMM 3050 - Topics in Communication Studies (1 to 3*) (Film topic)*
COMM 3052 - Topics in Media & Technology Studies (3)
COMM 3125 - New Media for Communications (3)
ENGL 2106 - Film Criticism (3)
ENGL 3050 - Topics in English (3) *(Film topic)*
ENGL 3072 - Topics in Literature and Film (3)
GERM 3660 - Survey of German Film (3)
HIST 3010 - Non-Western History and Culture through Film (3)
HIST 3011 - History and Culture through Film (3)
JAPN 3060 - Topics in Japanese Film (3)
JAPN 3140 - Anime: Genres, Themes and History (3)
JAPN 4040 - Advanced Topics in Japanese Media and Culture (3)
LANG 3050 - Topics in Language, Literature, and Culture (3) *(French, German, Italian, Japanese, etc. film topic)*
LANG 3160 - European Cinema (3)
LBST 1102 - The Arts and Society: Film (3)
POLS 3128 - Politics and Film (3)
RELS 3212 - Religion, Media, and Film (3)
RELS 2246 - Jesus at the Movies (3)
SPAN 3160 - Studies in Hispanic Film (3)
THEA 2290 - Acting on Camera I (3)
THEA 2320 - Playwriting I (3)
THEA 4001 - Topics in Theatre (1 to 6) *(Fundamentals of Film Production and other topics)*

**Capstone in Film & Media Production (3 credit hours)**
Participation in a preliminary orientation session a semester in advance is required to receive a permit for this course. Students must be enrolled in the Undergraduate Certificate in Video Production and should take this course as close to graduation as possible. Students must have completed all or the large majority of Minor and Certificate course to receive a permit for this course. Transfer credit is not accepted for this course.

The course is designed as a pre-professional launching pad and exploratory survey of career options for Film Studies Minor and Undergraduate Certificate in Video Production students through the development of a concentrated thesis project and ancillary materials to complete a professional portfolio package.

FILM 4690 Capstone in Film Studies (3)

### Total = 21 Credit Hours

### Progression Requirements

- Students are required to complete FILM 1502: Introduction to Film and Media as a foundational course which counts toward the Minor.
- Students must successfully complete FILM 3120: Fundamentals of Film/Video Production as a prerequisite before enrolling in additional production courses.
- Upon successful completion of FILM 1502, production and interdisciplinary electives, students should conclude their Program studies with FILM 4690: Capstone in Film Studies to successfully complete their Minor and Undergraduate Certificate.

**Special Policies or Requirements**

- Students are able to count both FILM and FILM cross-listed courses toward their Minor courses. If a course is cross-listed with another program or department (i.e. AMST, ENGL). Students may sign up for either section and receive credit toward the Minor.
- Students must receive Program approval to allow production courses offered outside FILM at the University count toward their Undergraduate Certificate.
- Students may receive Program approval for transfer credits in film studies and/or production courses so long as they represent consistent areas of focus and developmental levels.
- Students are able to take multiple Topics in Film courses to count toward their Minor and/or Undergraduate Certificate (i.e. FILM 3050, FILM 3051). DegreeWorks recognizes up to two (2) Topics in Film courses automatically. Additional courses should receive Program approval prior to enrolling, and may require a waiver request to be recognized via DegreeWorks.
- Should a different program or department offer a film-based course which is not cross-listed with FILM, students will need to receive special approval from the Program to count toward the Minor and/or Undergraduate Certificate.

## Undergraduate Certificate in Video Production

The Certificate in Video Production is designed for students who wish to develop practical skills in the art of filmmaking. It can be earned in conjunction with the Minor in Film Studies or as a stand-alone certificate. The courses that lead to a Certificate in Video Production represent different technical and aesthetic aspects of filmmaking, including screenwriting, directing, producing, acting, and cinematography using video.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Students must be enrolled as a full-time student pursuing a major in their selected field of study in order to sign up for the Undergraduate Certificate. The Certificate cannot be pursued separately from a degree program.
- Students who also wish to pursue the Minor in Film Studies may sign up for both at the time of application.

### Certificate Requirements

The Certificate in Video Production requires the completion of 18 credit hours of approved courses.

**Required Courses (6 credit hours)**

FILM 1502 - Global Arts/Humanities: Introduction to Film and Media Art (3)
FILM 4690 - Capstone in Film Studies (3)

**Elective Productive Courses (12 credit hours)**

*Select four of the following:*
FILM 3120 - The Fundamentals of Video/Film Production (3)
FILM 3121 – Cinematic Storytelling (3)
FILM 3220 - Introduction to Screenwriting (3)
FILM 3221 – Advanced Screenwriting (3)
FILM 4120 - Production and Directing (3)
FILM 4121 - Creative Nonfiction Production (3)
FILM 4220 - Film Festivals & Impact Production (3)
FILM 4221 - Community-Based Film Production (3)
FILM 4410 - Professional Internship in Film Studies (1 to 6) *(No more than 3 credit hours may count toward the minor*)

### Certificate Total = 18 Credit Hours

# Gerontology

- **Minor in Gerontology**
- **Early Entry: Graduate Certificate in Gerontology**

The interdisciplinary program in Gerontology is designed to provide students with academic and field experiences in the area of aging. An understanding of the basic processes of aging and of its social consequences is valuable not only for students who wish to pursue careers directly related to gerontology but also for students interested in careers in other areas and interested in their own aging. As the number of older persons in our society continues to increase, it will be important for people in every occupation and profession to have a basic understanding of the aging process. The goal of the program is to provide students with that basic understanding.

Gerontology is both an interdisciplinary and a multidisciplinary field. Invariably, the best research, training, and service programs in gerontology have developed when professionals from a variety of traditional academic disciplines have been afforded the opportunity to

work together, each contributing a unique expertise while benefiting from the expertise of others.

# Minor in Gerontology

The Minor in Gerontology is built around a core sequence of interdisciplinary and multidisciplinary courses that are taught from a variety of different academic disciplines. This approach is designed to bring together information from multidisciplinary sources, integrate theoretical and applied concepts in gerontology, and communicate to students the need for an integrated approach to meeting the needs of all of us as we age.

A Minor in Gerontology can be useful in combination with a broad range of majors. With the aging population growing rapidly in the U.S. and globally, there are consequences that translate into diverse career options. Projections indicate opportunities in city planning, administration, management, recreation, counseling, physical therapy, social work, program development, research, long-term care administration, and healthcare, for example.

## Admissions Requirements

### Current UNC Charlotte Undergraduate Students

- See University Admission Requirements

### New Transfer

- See University Admission Requirements

## Currently Enrolled Students

*Declaration of Major:* Change of Major forms accepted year-round. Students must make an advising appointment during SOAR and when declaring the major.

## Minor Requirements

The Minor in Gerontology is awarded only to students completing an undergraduate major at UNC Charlotte. A total of 18 credit hours in gerontology courses is required.

### Foundation Course (3 credit hours)

GRNT 2100 - Aging and the Lifecourse (3) (SL)
or SOCY 2100 - Aging and the Lifecourse (3) (SL)

*Note: Transfer credit is not accepted for these courses.*

### Primary Elective Courses (6 credit hours)

*Select at least two of the following:*
GRNT 2372 - Psychology of Aging (3)
or PSYC 2372 - Psychology of Aging (3)
GRNT 3115 - Health and the Aging Process (3)
or HLTH 3115 - Health and the Aging Process (3)
or NURN 4100 - Aging and Health (3)
or NURS 4100 - Nursing Care of the Aging Adult (3)
GRNT 4110 - Sociology of Aging (3)
or SOCY 4110 - Sociology of Aging (3)
GRNT 4250 - Aging Programs and Services (3)
GRNT 4366 - Minorities and Aging (3)
or SOCY 4366 - Minorities and Aging (3)

### Secondary Elective Courses (6 credit hours)

Secondary elective courses may be chosen from the following list of approved courses related to gerontology in consultation with the Gerontology Undergraduate Coordinator. Additional primary elective courses may also count toward this requirement. Other appropriate courses may be chosen as electives in consultation with the Gerontology Undergraduate Coordinator.

GRNT 3125 - Older Worker and Retirement (3)
or PSYC 3125 - Older Worker and Retirement (3)
or SOCY 3125 - Older Worker and Retirement (3)
GRNT 3134 - Families and Aging (3)
or SOCY 3134 - Families and Aging (3)
GRNT 3267 - Sociology of Dying, Death and Bereavement (3)
or SOCY 3267 - Sociology of Dying, Death and Bereavement (3)
GRNT 3800 - Independent Study in Gerontology (1 to 8) *(a total of 3 credit hours may be counted toward the minor requirements)*
GRNT 4050 - Topics in Gerontology (1 to 4)
GRNT 4230 - Advocacy and Aging (3)
or SOWK 4230 - Advocacy and Aging (3)
GRNT 4260 - Women: Middle Age and Beyond (3)
or HLTH 4260 - Women: Middle Age and Beyond (3)
or WGST 4260 - Women: Middle Age and Beyond (3)
GRNT 4280 - The Experience of Dementia (3)
or SOWK 4280 – The Experience of Dementia (3)
GRNT 4290 - The Experience of Loneliness (3)
or SOCY 4290 - The Experience of Loneliness (3)
GRNT 4353 - Environments for Aging (3)
or SOWK 4353 – Environments for Aging (3)
GRNT 4364 - Aging and Criminal Justice: An Interdisciplinary Understanding (3)
or CJUS 4364 - Aging and Criminal Justice: An Interdisciplinary Understanding (3)
GRNT 4365 - Grief and Loss Across the Lifespan (3)
or SOWK 4365 - Grief and Loss Across the Lifespan (3)
GRNT 4366 - Minorities and Aging (3)
or SOCY 4366 - Minorities and Aging (3)
PHIL 2220 - Healthcare Ethics (3)
POLS 3125 - Healthcare Policy (3)
SOCY 2169 - Sociology of Health and Illness (3)
SOWK 4101 - Social Work Practice with Elderly (3)

### Senior Seminar (3 credit hours)

Participation in a preliminary orientation session a semester in advance is required to receive a permit for this course. Students must be declared minors who have completed GRNT 2100, two primary elective courses, and one secondary elective courses (preferably two), and should take this course as close to graduation as possible. Transfer credit is not accepted for this course.

GRNT 3600 - Capstone Seminar and Field Experience in Aging (3)

## Minor Total = 18 Credit Hours

## Progression Requirements

An overall GPA of 2.5 in GRNT courses is required. Students must earn a C or above in courses that are counted toward the minor.

### Special Policies or Requirements

Because this is designed to be an interdisciplinary minor, no more than three courses in the student's major may count toward the minor.

Students who have earned a bachelor's degree from UNC Charlotte may be readmitted to pursue a Minor in Gerontology, just as they may be readmitted to pursue a second major. (For further information on readmission, see the Admission to the University section of this *Catalog*.)

Students who have earned a bachelor's degree from an institution other than UNC Charlotte may not receive a Minor in Gerontology from UNC Charlotte (unless they earn a second baccalaureate degree from UNC Charlotte). Such students may request a letter from the program and/or a transcript notation that acknowledges completion of courses specified for the minor but indicates that the minor can only be awarded upon completion of a degree.

## Early Entry: Graduate Certificate in Gerontology

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate certificate before completion of the baccalaureate degree.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

*Note: GRE scores are not required.*

### Progression Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree.

### Special Policies or Requirements

Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of undesignated elective coursework may be double-counted toward both the undergraduate and graduate degrees). Graduate courses may not double count toward the Minor in Gerontology.

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this certificate program, see the program listing in the *Graduate Catalog*.

# Health & Medical Humanities

## Minor in Health & Medical Humanities

Health & Medical Humanities is an interdisciplinary field that uses humanistic perspectives to understand health and healthcare. The humanities have the potential to teach us about the embodied human experience, including suffering, healing, well-being, and flourishing. The Minor in Health & Medical Humanities complements the movement toward primary and patient-centered care in healthcare and provides an interdisciplinary approach to understanding the effects of health, wellness, and illness on patients, health professionals, and on the social worlds in which they live and work. The program explores the experience of illness, mortality, fragility, health, and healthcare settings through literature, the arts, and the social sciences. The minor supports the University's health and medical-related programs by offering a cross-disciplinary approach that promises to enhance observation, empathy, communication, cultural understanding, human compassion and sensitivity, and creativity, among future healthcare providers. In short, the minor immerses students in the human side of medicine and health and leads to greater enhanced interpersonal relationships between patients and practitioners. The minor supports the concept of "person-centered medicine," and thus leads to an enhanced appreciation of the personhood and inherent humanness of patients and clients. The minor also intends to enhance personal reflection, critical thinking skills, and the understanding of health, illness, and medical care's personal, social, historical, and cultural contexts. The minor is supported by faculty and courses across the College of Humanities & Earth and Social Sciences, including from departments of and majors in Africana Studies, Anthropology, Communication Studies, Criminal Justice, History, Language and Cultural Studies, and Philosophy.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

See University Admission Requirements

### Minor Requirements

The Minor in Health & Medical Humanities requires 18 credit hours. Students take two required courses. Between these two courses, students take four (4) approved elective courses from various departments from the social sciences, humanities, arts, and natural sciences. Throughout, students investigate questions of health, healing, and disease from multiple disciplinary perspectives and integrate their insights into an interdisciplinary portfolio as a capstone project. Because this is designated to be an interdisciplinary minor, no more than three courses in the student's major may count toward the minor.

**Introductory Course (3 credit hours)**
HHUM 2100 - Introduction to Health & Medical Humanities (3)

**Elective Courses (12 credit hours)**
*Select from the following. If selecting a Topics Course from the list of electives below (e.g., AFRS 2050, AMST 3050), prior approval for the topic is required by the director of the HHUM minor.*
AFRS 2050 - Topics in Africana Studies (3) *(Topics: Religion and Racism)*
AFRS 2170 - Introduction to Health and Environmental Issues in the Africana World (3)
AFRS 2172 - Black Sexuality and Health (3)
AFRS 3155 - Health and Healing in Africa (3)
or HIST 3155 - Health and Healing in Africa (3)
AFRS 3218 - Racial Violence, Colonial Times to Present (3)
AFRS 3250 - African Americans and Health Communication (3)
AFRS 3260 - Slavery, Racism, and Colonialism in the African Diaspora (3)
AFRS 4050 - Topics in Africana Studies (3)
AFRS 4652 - Race, Health, and the African Diaspora (3)
AMST 2050 - Topics in American Studies (3) *(Topics: Race in the U.S. and Latin America)*
AMST 3050 - Topics in American Studies (3)
ANTH 2020 - Topics in Cultural Anthropology (3) *(Topics: Religion and Food)*
ANTH 2126 - World Population Problems (3)
ANTH 2127 - Environmental Anthropology (3)
ANTH 2141 - Our Place in Nature: Introduction to Biological Anthropology (4)
ANTH 3090 - Topics in Anthropology (1 to 3) *(Topics: Anthropology of Childhood, Anthropology of Violence, Cemetery Studies)*
ANTH 3125 - Food and Globalization (3)
ANTH 3143 - Race and Anthropology (3)
ANTH 3144 - Evolutionary Anthropology (3)
ANTH 3222 - Culture, Health, and Disease (3)
ANTH 4090 - Topics in Anthropology (1 to 3)
ANTH 4141 - Forensic Anthropology (3)
CJUS 3366 - Domestic Violence (3)
CJUS 4351 - Violence and the Violent Offender (3)
CJUS 4360 - Drugs, Crime, and the Criminal Justice System (3)
CJUS 4363 - Gender, Race, and Justice (3)
CJUS 4372 - Drug Analytics (3)
COMM 2107 - Interpersonal Communication (3)
COMM 3051 - Topics in Health Communication (3) *(Topics: Healthcare Narratives; End of Life Communication; Gender and Health; Media and Health; Health, Communication, and Marginal Communities; The Social Construction of Health and Illness)*
GRNT 3267 - Sociology of Dying, Death, and Bereavement (3)
or SOCY 3267 - Sociology of Dying, Death, and Bereavement (3)
GRNT 4260 - Women: Middle Age and Beyond (3)
or WGST 4260 - Women: Middle Age and Beyond (3)
HHUM 3020 - Topics in Health & Medical Humanities (3)
HHUM 3030 – Health & Medical Humanities Study Abroad (3)
HHUM 4020 - Topics in Health & Medical Humanities (3)
HIST 2002 - Topics in Non-Western History (3) *(Topics: Gender and Sexuality in Latin American History)*
HIST 2140 - Disease and Medicine in History (3)
HIST 2170 - Latino/as in the United States, 1846 to Present (3)
LTAM 2002 - Topics in Latin American Studies (3) *(Topics: Gender and Sexuality in Latin American History)*
PHIL 2220 - Healthcare Ethics (3)
PHIL 3272 - Philosophy of Technology (3)
RELS 3300 Religion and Healing (3)
RELS 4300 – Religion and the Body (3)
SOCY 2100 - Aging and the Lifecourse (3) (SL)
SOCY 2169 - Sociology of Health and Illness (3)
SOCY 3261 - Human Sexuality (3)
SPAN 3222 - Spanish for Medical and Healthcare (3)
WGST 3050 - Topics in Women's Studies (3)
WGST 3102 - Changing Realities of Women's Lives (3)
WGST 3140 - Domestic Violence (3)
WGST 3310 - Gender and Sexuality (3)

**Capstone Course (3 credit hours)**
HHUM 4800 - Health & Medical Humanities Portfolio Capstone (3)

### Minor Total = 18 Credit Hours

### Progression Requirements
Students must attain an overall GPA of 2.0 in all coursework within the minor. No courses counted toward the minor may be taken Pass/No Credit.

# Interdisciplinary Studies

## Bachelor of Arts in Interdisciplinary Studies *with Concentration in Capitalism Studies*

The B.A. in Interdisciplinary Studies has concentrations in the following areas: Capitalism Studies, Film & Media Production, Gerontology, Health & Medical Humanities, Human-Centered Artificial Intelligence, and Women's and Gender Studies. The program allows students to combine an interdisciplinary concentration in one of these areas with in-depth coursework in a disciplinary field to create an individually designed major reflecting their own interests. Through the combination of interdisciplinary and disciplinary coursework, students gain a deeper understanding of these areas of study from multiple perspectives and develop competencies in oral and written communication, critical thinking, data analysis, teamwork, and leadership.

### Admission Requirements
**Freshmen and Transfers**
All students must meet UNC Charlotte requirements for admission for undergraduate students. General advising for prospective and newly declared majors will introduce students to the curriculum and degree

requirements so as not to delay graduation or result in higher costs to students.

See University Admission Requirements

**Currently Enrolled Students**

- Students must have a 2.0 cumulative GPA unless it is their first semester at UNC Charlotte and a cumulative GPA has not been established.
- *Declaration of Major*. Students who want to declare a major in Interdisciplinary Studies with a Concentration in Capitalism Studies should first meet with the Capitalism Studies program director, then complete the "Add IDST Major" form located on the Interdisciplinary Studies department website.

## Degree Requirements

**General Education (37-43 credit hours)**

For details on required General Education courses, refer to the General Education Program.

**Foreign Language Requirement (0-8 credit hours)**

For details on required courses, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirement.

**Major Courses (36 credit hours)**

***Capitalism Studies Concentration Courses (18 credit hours)***

*Introductory Courses (6 credit hours)*

CAPI 1501 - Global Social Science: Capitalism in Global Context (3)
or CAPI 1575 - Capitalism and Democracy (3)
ECON 1501 - Global Social Science: Economics of Global Issues (3)
or ECON 2101 Principles of Economics Macro (3)

**Research Methods Course (3 credit hours)**

IDST 3100 - Interdisciplinary Research Methods (3)

**Capstone/Practicum Course (3 credit hours)**

CAPI 4050 - Capstone in Capitalism Studies (3)

**Elective Courses (6 credit hours)**

*Select from the following approved elective courses. Other courses not on this list, such as topics courses directly related to the minor, courses cross-listed with those on the list, and independent study courses, may be approved by the Program Director. In addition, students cannot take more than 6 credit hours from any one major area, such as AFRS, ANTH, ECON, GEOG, GLST, HIST, POLS, and SOCY.*

AFRS 3264 - Business Culture and Entrepreneurship in Africa (3)
AFRS 3265 - African Economic Development (3)
ANTH 3113 - Economic Anthropology (3)
ANTH 3125 - Food and Globalization (3)
CAPI 2050 - Topics in Capitalism Studies (3)
CAPI 3050 - Topics in Capitalism Studies (3)
CAPI 3400 - Capitalism Studies Internship (3)
CAPI 4050 - Capstone in Capitalism Studies (3)
ECON 1501 - Global Social Science: Economics of Global Issues (3)
ECON 2101 - Principles of Economics - Macro (3)
ECON 2102 - Principles of Economics - Micro (3)
ECON 3171 - International Business Economics (3)
GEOG 2105 - Introduction to Economic Geography (3)
GEOG 3105 - Geography of the Global Economy (3)
GERM 3670 - Seminar: German-American Culture for Business and Engineering I (English) (3)
GERM 3680 - Seminar: German-American Culture for Business and Engineering II (English) (3)
GLST 3135 - Origins of Globalization (3)
HIST 2101 - American Business History (3)
HIST 2105 - American Slavery and Emancipation (3)
HIST 3154 - Globalization in African History (3)
HIST 3270 - History of Capitalism in the U.S. (3)
JAPN 3130 - Business and Culture in Japan (3)
LTAM 3154 - Political Economy of Latin America (3)
PHIL 3271 - Social and Political Philosophy (3)
POLS 3151 - International Political Economy (3)
PSYC 2320 - Introduction to Industrial/Organizational Psychology (3)
PSYC 3121 - Organizational Psychology (3)
SOCY 4112 - Sociology of Work (3)
SOCY 4115 - Organizational Sociology (3)
SOCY 4116 - Sociology of Economic Life (3)
SOCY 4121 - Globalization and Development (3)
SPAN 3030 - Business and Culture in the Hispanic Caribbean Region (3)
WGST 3230 - Gender, Work, and Money (3)

**Disciplinary Depth Coursework (18 credit hours)**

Select 18 credit hours in a field of study that complements your concentration. A minor is preferred. An alternative course of study for disciplinary depth coursework is allowed upon approval by the Executive Director of Interdisciplinary Studies. A maximum of two courses (6 hours) from a student's minor or alternative course of study for disciplinary depth can count toward the electives in their Interdisciplinary Studies concentration, allowing completion of the major in 30 credit hours with proper planning. No more than two courses (6 hours) from another declared major can count toward the student's Interdisciplinary Studies major.

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements

Students must maintain a minimum GPA of 2.0 to continue in the major.

# Bachelor of Arts in Interdisciplinary Studies *with Concentration in Film & Media Production*

The B.A. in Interdisciplinary Studies has concentrations in the following areas: Capitalism Studies, Film & Media Production, Gerontology, Health & Medical Humanities, Human-Centered Artificial Intelligence, and Women's and Gender Studies. The program allows students to combine

an interdisciplinary concentration in one of these areas with in-depth coursework in a disciplinary field to create an individually designed major reflecting their own interests. Through the combination of interdisciplinary and disciplinary coursework, students gain a deeper understanding of these areas of study from multiple perspectives and develop competencies in oral and written communication, critical thinking, data analysis, teamwork, and leadership.

## Admission Requirements

### Freshmen and Transfers

All students must meet UNC Charlotte requirements for admission for undergraduate students. General advising for prospective and newly declared majors will introduce students to the curriculum and degree requirements so as not to delay graduation or result in higher costs to students.

See University Admission Requirements

### Currently Enrolled Students

- Students must have a 2.0 cumulative GPA unless it is their first semester at UNC Charlotte and a cumulative GPA has not been established.
- *Declaration of Major*. Students who want to declare a major in Interdisciplinary Studies with a Concentration in Film & Media Production should first meet with the Film & Media Production Program Director, then complete the "Add IDST Major" form located on the Interdisciplinary Studies department website.

## Degree Requirements

### General Education (37-43 credit hours)

For details on required General Education courses, refer to the General Education Program.

### Foreign Language Requirement (0-8 credit hours)

For details on required General Education courses, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirement.

### Major Courses (39 credit hours)

***Film & Media Production Concentration Courses (21 credit hours)***

*Film & Media Foundations (3 credit hours)*

An introduction to the terminologies, significant movements, figures and works associated with the history, theory and production of film beginning in the late 1800s to present. Students gain an understanding of oscillating relationships between media and culture and discover patterns of technological, social, economic and cultural developments through viewings, discussions and patterning.

FILM 1502 – Global Arts/Humanities: Introduction to Film and Media Art (3)

***Interdisciplinary Research Methods Course (3 credit hours)***

This course provides an overview of qualitative and quantitative methods that are commonly used across academic disciplines and in interdisciplinary research. It examines epistemological considerations that go into crafting an original research question, developing an appropriate research design, and critically analyzing evidence. These include exploring philosophical worldviews, reviewing relevant literature, understanding the relationship between theory and methods, considering ethical issues, and assessing the reliability of data. By studying methods across academic fields, students will learn to engage with a broad range of existing scholarship and build a foundation for conducting their own interdisciplinary research.

IDST 3100 - Interdisciplinary Research Methods (3)

***Production Fundamentals (6 credit hours)***

These courses focuses on introducing best practices for all production phases (concept development, pre-production, production, post-production and marketing/impact production), as well as key scriptwriting elements and core tenets of modern storytelling for various media applications. Students must successfully complete FILM 3120 before enrolling in advanced production-based courses, and must successfully complete FILM 3220 before enrolling in advanced screenwriting courses.

FILM 3120 - Fundamentals of Film & Media Production
FILM 3220 - Introduction to Screenwriting

**Production Electives (6 credit hours)**

Students must take two secondary electives which may be chosen from the following list of approved courses related to Film & Media Production. Additional Film & Media Production primary elective courses may also count toward this requirement. Other appropriate courses may be chosen as electives in consultation with the Program Director.

FILM 3051 - Topics in Film Production (3)
FILM 3121 – Cinematic Storytelling (3)
FILM 3221 - Advanced Screenwriting (3)
FILM 3800 - Directed Project in Film or Video (1 to 3)
FILM 4120 - Production and Directing (3)
FILM 4121 – Creative Nonfiction Production (3)
FILM 4122 - Music Video Production (3)
FILM 4220 - Film Festivals: Production and Theory (3)
FILM 4221 - Community-Based Film Production (3)
FILM 4320 - Acting & Directing for Film (3)
FILM 4410 - Professional Internship in Film Studies (1 to 6)

**Capstone in Film & Media Production (3 credit hours)**

Participation in a preliminary orientation session a semester in advance is required to receive a permit for this course. Students must be in the Film & Media Production concentration and should take this course as close to graduation as possible. Students must have completed all or the large majority of Film & Media Production major concentration courses to receive a permit for this course. Transfer credit is not accepted for this course. This course is designed as a pre-professional launching pad and exploratory survey of career options for Film & Media Production students through the development of a concentrated thesis project and ancillary materials to complete a professional portfolio package.

FILM 4690 - Capstone in Film & Media Production (3)

**Disciplinary Depth Coursework (18 credit hours)**

Select 18 credit hours in a field of study that complements your concentration. A minor is preferred. An alternative course of study for disciplinary depth coursework is allowed upon approval by the Executive Director of Interdisciplinary Studies. A maximum of two courses (6 hours) from a student's minor or alternative course of study for disciplinary depth can count toward the electives in their

Interdisciplinary Studies concentration, allowing completion of the major in 30 credit hours with proper planning. No more than two courses (6 hours) from another declared major can count toward the student's Interdisciplinary Studies major.

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements
Students must maintain a minimum GPA of 2.0 to continue in the major.

# Bachelor of Arts in Interdisciplinary Studies *with Concentration in Gerontology*

The B.A. in Interdisciplinary Studies has concentrations in the following areas: Capitalism Studies, Film & Media Production, Gerontology, Health & Medical Humanities, Human-Centered Artificial Intelligence, and Women's and Gender Studies. The program allows students to combine an interdisciplinary concentration in one of these areas with in-depth coursework in a disciplinary field to create an individually designed major reflecting their own interests. Through the combination of interdisciplinary and disciplinary coursework, students gain a deeper understanding of these areas of study from multiple perspectives and develop competencies in oral and written communication, critical thinking, data analysis, teamwork, and leadership.

## Admission Requirements

### Freshmen and Transfers
All students must meet UNC Charlotte requirements for admission for undergraduate students. General advising for prospective and newly declared majors will introduce students to the curriculum and degree requirements so as not to delay graduation or result in higher costs to students.

See University Admission Requirements

### Currently Enrolled Students
- Students must have a 2.0 cumulative GPA unless it is their first semester at UNC Charlotte and a cumulative GPA has not been established.
- *Declaration of Major*. Students who want to declare a major in Interdisciplinary Studies with a Concentration in Gerontology should first meet with the Gerontology Program Director, then complete the "Add IDST Major" form located on the Interdisciplinary Studies department website.

## Degree Requirements

**General Education (37-43 credit hours)**
For details on required General Education courses, refer to the General Education Program.

**Foreign Language Requirement (0-8 credit hours)**
For details on required General Education courses, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirement.

**Major Courses (39 credit hours)**
***Gerontology Concentration Courses (21 credit hours)***

*Introductory Course (SL) (3 credit hours)*
An interdisciplinary course that examines the phenomenon of aging and its consequences for society from a variety of perspectives. Students participate in lectures, discussions and service-learning projects designed to give them a broad overview of the field of gerontology. Emphasis on the wide variation in the aging process and approaches to meeting the needs of the aging population. Transfer credit is not accepted for this course.

GRNT 2100 - Aging and the Lifecourse (3)
or SOCY 2100 - Aging and the Lifecourse (3)

***Interdisciplinary Research Methods Course (3 credit hours)***
This course provides an overview of qualitative and quantitative methods that are commonly used across academic disciplines and in interdisciplinary research. It examines epistemological considerations that go into crafting an original research question, developing an appropriate research design, and critically analyzing evidence. These include exploring philosophical worldviews, reviewing relevant literature, understanding the relationship between theory and methods, considering ethical issues, and assessing the reliability of data. By studying methods across academic fields, students will learn to engage with a broad range of existing scholarship and build a foundation for conducting their own interdisciplinary research.

IDST 3100 - Interdisciplinary Research Methods (3)

**Primary Electives (6 credit hours)**
*Students must take two of the following:*
GRNT 2372 - Psychology of Adult Development and Aging (3)
or PSYC 2372 - Psychology of Adult Development and Aging (3)
GRNT 3115 - Health and the Aging Process (3)
or HLTH 3115 - Health and the Aging Process (3)
GRNT 4110 - Sociology of Aging (3)
or SOCY 4110 - Sociology of Aging (3)
GRNT 4250 - Aging Programs and Services (3)
GRNT 4366 - Minorities and Aging (3)
or SOCY 4366 - Minorities and Aging (3)

**Secondary Electives (6 credit hours)**
Students must take two secondary electives which may be chosen from the following list of approved courses related to gerontology. Additional gerontology primary elective courses may also count toward this requirement. Other appropriate courses may be chosen as electives in consultation with the program director.

GRNT 3125 - Older Worker and Retirement (3)
or PSYC 3125 - Older Worker and Retirement (3)
or SOCY 3125 - Older Worker and Retirement (3)

GRNT 3134 - Families and Aging (3)
or SOCY 3134 - Families and Aging (3)
GRNT 3267 - Sociology of Dying, Death, and Bereavement (3)
or SOCY 3267 - Sociology of Dying, Death, and Bereavement (3)
GRNT 3800 - Independent Study in Gerontology (1 to 8)
GRNT 4050 - Topics in Gerontology (1 to 4)
GRNT 4230 - Advocacy and Aging (3)
or SOWK 4230 - Advocacy and Aging (3)
GRNT 4250 - Topics in Gerontology (3)
GRNT 4260 - Women: Middle Age and Beyond (3)
or HLTH 4260 - Women: Middle Age and Beyond (3)
or WGST 4260 - Women: Middle Age and Beyond (3)
GRNT 4280 - The Experience of Dementia (3)
or SOWK 4280 -The Experience of Dementia (3)
GRNT 4290 - The Experience of Loneliness (3)
or SOCY 4290 - The Experience of Loneliness (3)
GRNT 4353 - Environments for Aging (3)
or SOWK 4353 - Environments for Aging (3)
GRNT 4364 - Aging and Criminal Justice: An Interdisciplinary Understanding (3)
or CJUS 4364 - Aging and Criminal Justice: An Interdisciplinary Understanding (3)
GRNT 4365 - Grief and Loss Across the Lifespan (3)
or SOWK 4365 - Grief and Loss Across the Lifespan (3)
PHIL 2220 - Healthcare Ethics (3)
POLS 3125 - Healthcare Policy (3)
SOCY 2169 - Sociology of Health and Illness (3)
SOWK 4101 - Social Work Practice with Older Adults (3)

**Capstone/Practicum Course (3 credit hours)**
Participation in a preliminary orientation session a semester in advance is required to receive a permit for this course. Students must be in the gerontology concentration and have who have completed GRNT 2100, two primary elective courses, and one secondary elective courses (preferably two), and should take this course as close to graduation as possible. Transfer credit is not accepted for this course.

GRNT 3600 - Senior Seminar and Field Experience in Aging (3)

**Disciplinary Depth Coursework (18 credit hours)**
Select 18 credit hours in a field of study that complements your concentration. A minor is preferred. An alternative course of study for disciplinary depth coursework is allowed upon approval by the Executive Director of Interdisciplinary Studies. A maximum of two courses (6 hours) from a student's minor or alternative course of study for disciplinary depth can count toward the electives in their Interdisciplinary Studies concentration, allowing completion of the major in 30 credit hours with proper planning. No more than two courses (6 hours) from another declared major can count toward the student's Interdisciplinary Studies major.

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements
Students must maintain a minimum GPA of 2.0 to continue in the major. A cumulative GPA of 2.5 in concentration (gerontology) courses and C or above in concentration (gerontology) courses is required to successfully graduate with this concentration.

# Bachelor of Arts in Interdisciplinary Studies *with Concentration in Health & Medical Humanities*

The B.A. in Interdisciplinary Studies has concentrations in the following areas: Capitalism Studies, Film & Media Production, Gerontology, Health & Medical Humanities, Human-Centered Artificial Intelligence, and Women's and Gender Studies. The program allows students to combine an interdisciplinary concentration in one of these areas with in-depth coursework in a disciplinary field to create an individually designed major reflecting their own interests. Through the combination of interdisciplinary and disciplinary coursework, students gain a deeper understanding of these areas of study from multiple perspectives and develop competencies in oral and written communication, critical thinking, data analysis, teamwork, and leadership.

## Admission Requirements
**Freshmen and Transfers**
All students must meet UNC Charlotte requirements for admission for undergraduate students. General advising for prospective and newly declared majors will introduce students to the curriculum and degree requirements so as not to delay graduation or result in higher costs to students.

See University Admission Requirements

**Currently Enrolled Students**
- Students must have a 2.0 cumulative GPA unless it is their first semester at UNC Charlotte and a cumulative GPA has not been established.
- *Declaration of Major*. Students who want to declare a major in Interdisciplinary Studies with a Concentration in Health and Medical Humanities should first meet with the Health and Medical Humanities program director, then complete the "Add IDST Major" form located on the Interdisciplinary Studies department website.

## Degree Requirements
**General Education (37-43 credit hours)**
For details on required General Education courses, refer to the General Education Program.

**Foreign Language Requirement (0-8 credit hours)**
For details on required General Education courses, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirement.

**Major Courses (36 credit hours)**
***Health & Medical Humanities Concentration Courses (18 credit hours)***
*Introductory Course (3 credit hours)*

HHUM 2100 - Introduction to Health & Medical Humanities (3)

***Research Methods Course (3 credit hours)***
IDST 3100 - Interdisciplinary Research Methods (3)

***Capstone/Practicum Course (3 credit hours)***
HHUM 4800 - Health & Medical Humanities Portfolio Capstone (3)

***Elective Courses (9 credit hours)***
*Select from the following. If selecting a Topics Course from the list of electives below (e.g., AFRS 2050, AMST 3050), prior approval for the topic is required by the Program Director of Health & Medical Humanities.*

AFRS 2050 - Topics in Africana Studies (3) *(Topics: Religion and Racism)*
AFRS 2170 - Introduction to Health and Environmental Issues in the Africana World (3)
AFRS 2172 - Black Sexuality and Health (3)
AFRS 3155 - Health and Healing in Africa (3)
or HIST 3155 - Health and Healing in Africa (3)
AFRS 3218 - Racial Violence, Colonial Times to Present (3)
AFRS 3250 - African Americans and Health Communication (3)
AFRS 3260 - Slavery, Racism, and Colonialism in the African Diaspora (3)
AFRS 4050 - Topics in Africana Studies (3)
AFRS 4652 - Race, Health, and the African Diaspora (3)
AMST 2050 - Topics in American Studies (3) *(Topics: Race in the U.S. and Latin America)*
AMST 3050 - Topics in American Studies (3)
ANTH 2020 - Topics in Cultural Anthropology (3) *(Topics: Religion and Food)*
ANTH 2126 - World Population Problems (3)
ANTH 2127 - Environmental Anthropology (3)
ANTH 2141 - Our Place in Nature: Introduction to Biological Anthropology (4)
ANTH 3090 - Topics in Anthropology (1 to 3) *(Topics: Anthropology of Childhood, Anthropology of Violence, Cemetery Studies, Human Osteology)*
ANTH 3125 - Food and Globalization (3)
ANTH 3143 - Race and Anthropology (3)
ANTH 3144 - Evolutionary Anthropology (3)
ANTH 3222 - Culture, Health, and Disease (3)
ANTH 4090 - Topics in Anthropology (1 to 3)
ANTH 4131 - Culture, Pregnancy, and Birth (3)
ANTH 4141 - Forensic Anthropology (3)
CJUS 3366 - Domestic Violence (3)
CJUS 4351 - Violence and the Violent Offender (3)
CJUS 4360 - Drugs, Crime, and the Criminal Justice System (3)
CJUS 4363 - Gender, Race, and Justice (3)
CJUS 4372 - Drug Analytics (3)
COMM 2107 - Interpersonal Communication (3)
COMM 3051 - Topics in Health Communication (3) *(Topics: Healthcare Narratives; End of Life Communication; Gender and Health; Media and Health; Health, Communication, and Marginal Communities; The Social Construction of Health and Illness)*
GRNT 3267 - Sociology of Dying, Death, and Bereavement (3)
or SOCY 3267 - Sociology of Dying, Death, and Bereavement (3)
GRNT 4260 - Women: Middle Age and Beyond (3)
or HLTH 4260 - Women: Middle Age and Beyond (3)
or WGST 4260 - Women: Middle Age and Beyond (3)
HHUM 3020 - Topics in Health and Medical Humanities (3)
HHUM 3030 - Health and Medical Humanities Study Abroad (3)
HHUM 4020 - Topics in Health & Medical Humanities (3)
HIST 2002 - Topics in Non-Western History (3) *(Topics: Gender and Sexuality in Latin American History)*
HIST 2140 - Disease and Medicine in History (3)
HIST 2170 - Latino/as in the United States, 1846 to Present (3)
LTAM 2002 - Topics in Latin American Studies (3) *(Topics: Gender and Sexuality in Latin American History)*
PHIL 2220 - Healthcare Ethics (3)
PHIL 3272 - Philosophy of Technology (3)
RELS 3300 Religion and Healing
SOCY 2169 - Sociology of Health and Illness (3)
SOCY 3261 - Human Sexuality (3)
SPAN 3222 - Spanish for Medical and Healthcare (3)
WGST 2130 - Masculinity and Manhood (3)
WGST 3050 - Topics in Women's Studies (3)
WGST 3102 - Changing Realities of Women's Lives (3)
WGST 3140 - Domestic Violence (3)
WGST 3310 - Gender and Sexuality (3)

**Disciplinary Depth Coursework (18 credit hours)**
Select 18 credit hours in a field of study that complements your concentration. A minor is preferred. An alternative course of study for disciplinary depth coursework is allowed upon approval by the Executive Director of Interdisciplinary Studies. A maximum of two courses (6 hours) from a student's minor or alternative course of study for disciplinary depth can count toward the electives in their Interdisciplinary Studies concentration, allowing completion of the major in 30 credit hours with proper planning. No more than two courses (6 hours) from another declared major can count toward the student's Interdisciplinary Studies major.

***Culminating Experience (3 credit hours)***
HHUM 4800 - Health & Medical Humanities Portfolio Capstone (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

### Progression Requirements
Students must maintain a minimum GPA of 2.0 to continue in the major.

## Bachelor of Arts in Interdisciplinary Studies *with Concentration in Human-Centered Artificial Intelligence*
The B.A. in Interdisciplinary Studies has concentrations in the following areas: Capitalism Studies, Human-Centered AI, Film & Media Production, Gerontology, Health & Medical Humanities, and Women's and Gender Studies. The program allows students to combine an

interdisciplinary concentration in one of these areas with in-depth coursework in a disciplinary field to create an individually designed major reflecting their own interests. Through the combination of interdisciplinary and disciplinary coursework, students gain a deeper understanding of these areas of study from multiple perspectives and develop competencies in oral and written communication, critical thinking, data analysis, teamwork, and leadership.

All program-level Admissions and Progression Requirements are in addition to the University of North Carolina at Charlotte Admission Requirements.

## Admission Requirements

- Open to all students
- This program is housed in Interdisciplinary Studies (IDST) and must adhere to the requirements of the IDST. Please refer to the Interdisciplinary Studies website for IDST requirement details.

### Freshmen and Transfers

- All students must meet UNC Charlotte requirements for admission for undergraduate students. General advising for prospective and newly declared majors will introduce students to the curriculum and degree requirements so as not to delay graduation or result in higher costs to students.
- See University Admission Requirements

### Currently Enrolled Students

- Students must have a 2.0 cumulative GPA unless it is their first semester at UNC Charlotte and a cumulative GPA has not been established.
- *Declaration of Major:* Students who want to declare a major in Interdisciplinary Studies with a Concentration in HCAI should first meet with the HCAI Program Director, then complete the "Add IDST Major" form located on the Interdisciplinary Studies department website.

## Degree Requirements

The UNC Charlotte College of Humanities & Earth and Social Sciences (CHESS) offers a Bachelor of Arts in Interdisciplinary Studies with a concentration in Human-Centered AI. This program teaches students how to critically engage with intelligent systems, covering the full range of machine learning platforms; from the early history of thinking machines to modern generative artificial intelligence. Utilizing a humanities, earth, and social science lens, students will critique, evaluate, analyze, and develop strategies for both responsibly applying AI to solve contemporary problems and critically addressing the major societal and ethical issues posed by artificial intelligence in academic, professional, and civic life.

This program places the human experience, ethics, society, and history at the heart of AI study. Its unique focus is on preparing students by first ensuring they possess the foundational skills of a Humanities and Social Sciences education: critical thinking, analysis, collaboration, communication, research, and philosophy; essential human abilities necessary for success beyond the University. Additionally, the curriculum equips students with the necessary AI literacy, agency, skills, and application knowledge. This approach ensures graduates are competitive not just as AI users, but as human agents capable of engaging with AI ethically, responsibly, and in ways that empower their career pursuits rather than undermining them.

## General Education (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

## Foreign Language Requirement (0-8 credit hours)

For details on required courses, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirement .

## Major Requirements (33-39 credit hours)

### Human-Centered AI Concentration Courses (21 Credit Hours)

The Human-Centered AI Concentration requires seven (7) core courses totaling 21 credit hours.

***Foundations (6 credit hours)***

HCAI 1100 - AI Fundamentals and Literacy for All (3)
HCAI 2100 - Computing, Labor, and Power in History and Society (3)

***Research Methods (3 credit hours)***

IDST 3100 - Interdisciplinary Research Methods (3)

***Interdisciplinary Coursework (9 credit hours)***

HCAI 2101 - AI Application and Impact Across Disciplines (3)

HCAI 3111 - HCAI Social Science Applied (3)
- or ANTH 3090 - Topics in Anthropology (1 to 3)
- or CAPI 3050 - Topics in Capitalism Studies (3)
- or ANTH 4050 - Topics in Archaeology
- or GEOG 4340 - Urban Analytics (3)
- or HHUM 3020 - Topics in Health & Medical Humanities (3)
- or POLS 3010 - Topics in American Politics or Public Administration (1 to 4)
- or SOCY 3090 - Topics in Sociology (1 to 3)
- or PSYC 3001 - Topics in Psychology (1 to 3)

HCAI 3112 - Applied Humanities in Artificial Intelligence Studies (3)
- or AFRS 3050 - Topics in Africana Studies (3)
- or COMM 3052 - Topics in Media & Technology Studies (3)
- or ENGL 3081 - Topics in Author, Pop Culture, and Genre Studies (3)
- or ENGL 3082 - Topics in Film, Performance, and Print & Digital Culture (3)
- or FILM 3050 - Topics in Film Theory, Culture, and History (3)
- or HIST 3000 - Topics in U.S. History (3)
- or HIST 3384 - Oral History (3)
- or PHIL 3039 - Topics in Ethics/Aesthetics (3)
- or PHIL 3059 - Topics in Knowledge/Language (3)
- or PHIL 3079 - Topics in Identity/Society (3)
- or PHIL 3255 - Philosophy of Artificial Intelligence (3)
- or RELS 2000 - Topics in Religious Studies (1 to 3)
- or RELS 3000 - Special Topics in Religious Studies (3)
- or SPAN 3050 - Topics in Spanish (1 to 3)
- or WGST 4050 - Topics in Women's Studies (1 to 3)
- or WRDS 2100 - Introduction to Digital Studies in Writing (3)
- or WRDS 3160 - AI in the Public Imagination (3)

or WRDS 3210 - Foundations in Human-AI Writing: Prompting Partnerships (3)

***Capstone (3 credit hours)***
HCAI 4600 - HCAI Capstone (3)

**Disciplinary Depth Coursework (18 credit hours)**
Select 18 credit hours in a field of study that complements your concentration. A minor is preferred. An alternative course of study for disciplinary depth coursework is allowed upon approval by the Executive Director of Interdisciplinary Studies. A maximum of two courses (6 hours) from a student's minor or alternative course of study for disciplinary depth can count toward the courses in their Interdisciplinary Studies concentration, allowing completion of the major in 33 credit hours with proper planning. No more than two courses (6 hours) from another declared major can count toward the student's Interdisciplinary Studies major.

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements
Students must maintain a minimum GPA of 2.0 to continue in the major.

# Bachelor of Arts in Interdisciplinary Studies *with Concentration in Women's and Gender Studies*

The B.A. in Interdisciplinary Studies has concentrations in the following areas: Capitalism Studies, Film & Media Production, Gerontology, Health & Medical Humanities, Human-Centered Artificial Intelligence, and Women's and Gender Studies. The program allows students to combine an interdisciplinary concentration in one of these areas with in-depth coursework in a disciplinary field to create an individually designed major reflecting their own interests. Through the combination of interdisciplinary and disciplinary coursework, students gain a deeper understanding of these areas of study from multiple perspectives and develop competencies in oral and written communication, critical thinking, data analysis, teamwork, and leadership.

## Admission Requirements
**Freshmen and Transfers**
All students must meet UNC Charlotte requirements for admission for undergraduate students. General advising for prospective and newly declared majors will introduce students to the curriculum and degree requirements so as not to delay graduation or result in higher costs to students.

See University Admission Requirements

**Currently Enrolled Students**
- Students must have a 2.0 cumulative GPA unless it is their first semester at UNC Charlotte and a cumulative GPA has not been established.
- *Declaration of Major*. Students who want to declare a major in Interdisciplinary Studies with a Concentration in Women's and Gender Studies should first meet with the Women's and Gender Studies program director, then complete the "Add IDST Major" form located on the Interdisciplinary Studies department website.

## Degree Requirements
**General Education (37-43 credit hours)**
For details on required General Education courses, refer to the General Education Program.

**Foreign Language Requirement (0-8 credit hours)**
For details on required General Education courses, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirement.

**Major Courses (36 credit hours)**
***Women's and Gender Studies Concentration Courses (18 credit hours)***
*Introductory Courses (6 credit hours)*
WGST 1502 Global Arts/Humanities: Introduction to Gender Studies Around the World (3)
or WGST 1512 - Local Arts/Humanities: Introduction to Gender Studies in the U.S. (3)
WGST 3220 - Feminist Thought (3)

***Research Methods Course (3 credit hours)***
IDST 3100 - Interdisciplinary Research Methods (3)

***Capstone/Practicum Course (3 credit hours)***
*Select one of the following:*
WGST 4401 - Internship in Women's Studies (3)
WGST 4601 - Senior Colloquium (3)

***Elective Courses (6 credit hours)***
Elective courses can be chosen from any WGST prefix course or any other department's or program's offerings, as long as (a) the course deals substantially with gender, women, feminism, sexuality, or related social movements and (b) the courses are approved by the Director of Women's and Gender Studies. Students concentrating in Women's and Gender Studies should check their choices of electives with the Director of Women's and Gender Studies, both when they are planning their schedule and when they are reviewing it in preparation for graduation.

Examples of regularly taught courses in other departments that count as Women's and Gender Studies elective courses include, but are not limited to:

AFRS 2215 - Black Families in the United States (3)
AFRS 3050 - Topics in Africana Studies (3) *(Gender in a Transforming Africa)*
ENGL 3158 - Gender and African American Literature (3) or
ANTH 2090 - Topics in Anthropology (1 to 3) *(Gender, Culture, and Communication; or Gender in a Transforming Africa)*

ANTH 2123 - Women in Cross-Cultural Perspective (3)
ANTH 4131 - Culture, Pregnancy, and Birth (3)
CJUS 4363 - Gender, Race, and Justice (3)
COMM 2110 - Women and the Media (3)
COMM 3110 - Gender and Communication (3)
ENGL 4002 - Women and Literature (3)
ENGL 4050 - Topics in English (3) *(Native American Women; or Gender and Shakespeare)*
GRNT 4260 - Women: Middle Age and Beyond (3)
HIST 2150 - U.S. Women's History to 1877 (3)
HIST 2151 - U.S. Women's History Since 1877 (3)
HIST 2152 - European Women's and Gender History (3)
HIST 2155 - Southern Women's History (3)
or AMST 3050 - Topics in American Studies (3) *(Southern Women's History)*
PHIL 3261 - Feminist Philosophy (3)
PSYC 3356 - Psychology of Women and Gender (3)
RELS 3000 - Special Topics in Religious Studies (3) *(Religion and Gender)*
RELS 3215 - Religion and Sexuality (3)
SOCY 2132 - Sociology of Marriage and the Family (3)
SOCY 2163 - Sociology of Gender (3)
SOCY 3261 - Human Sexuality (3)
SOCY 4090 - Topics in Sociology (1 to 3) *(New Theoretical Approaches to Gender)*
SOCY 4165 - Sociology of Women (3)
SPAN 3019 - Hispanic Women Writers in English Translation (3)
THEA 4001 - Topics in Theatre (1 to 6) *(Women's Writings Onscreen; or Violent Film Females)*

**Disciplinary Depth Coursework (18 credit hours)**
Select 18 credit hours in a field of study that complements your concentration. A minor is preferred. An alternative course of study for disciplinary depth coursework is allowed upon approval by the Executive Director of Interdisciplinary Studies. A maximum of two courses (6 hours) from a student's minor or alternative course of study for disciplinary depth can count toward the electives in their Interdisciplinary Studies concentration, allowing completion of the major in 30 credit hours with proper planning. No more than two courses (6 hours) from another declared major can count toward the student's Interdisciplinary Studies major.

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

### Progression Requirements
Students must maintain a minimum GPA of 2.0 to continue in the major.

# Latin American Studies
Latin American Studies is an interdisciplinary program which involves a variety of fields, including African American studies, anthropology, Spanish and Portuguese language, literature and culture, history, philosophy, and political science. It also includes substantial training and education in Spanish and/or Portuguese. Students may either earn a Major (Bachelor of Arts) or a Minor in Latin American Studies.

Graduates of Latin American Studies (1) pursue graduate study in the humanities, social sciences, and law; (2) work for companies and agencies serving the growing Hispanic population of our region; and (3) find careers in the Foreign Service, the military, and other governmental agencies; in non-governmental organizations with an international or cross-cultural orientation; and in international business.

## Bachelor of Arts in Latin American Studies

### Admission Requirements
**Freshmen and Transfers**
- See University Admission Requirements
- *Minimum GPA:* 2.0
- Students who do not meet requirements for admission to the program because of special circumstances may petition the coordinator for acceptance into the program
- *Transferable Credit Hours:* 24

### Degree Requirements
The program leading to the Bachelor of Arts degree in Latin American Studies is a 120 credit hour program, including completion of all General Education Requirements and at least 30 credit hours in courses approved for Latin American Studies credit.

Students may earn LTAM credit in a course section with a non-LTAM prefix so long as it is cross-listed with a LTAM section.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Foreign Language Courses (3 credit hours)**
Students are expected to demonstrate competency in either Spanish (SPAN), French (FREN) or Portuguese (PORT). They can do this by completing one course at the 3000 level for Spanish or French or by completing Portuguese 2202. The program director may waive this requirement for native and heritage speakers following a determination of equivalent foreign language proficiency.

FREN 3201 - French Grammar and Conversation (3)
or FREN 3202 - French Grammar and Composition (3)
or PORT 2202 - Intermediate Portuguese II (3)
or SPAN 3201 - Advanced Spanish Grammar and Composition I (3)
or SPAN 3202 - Advanced Spanish Conversation and Composition (3)
or SPAN 3203 - Spanish for Heritage Speakers (3)

**Foundation Course (3 credit hours)**
LTAM 1501 - Global Social Science: Introduction to Latin American Politics and Society (3)
or LTAM 1502 - Global Arts/Humanities: Introduction to Latin American History and Culture (3)

**Major Courses (minimum 24 credit hours)**
Select two to three courses from each of the following three perspectives:

***Economy and Society Courses (6-9 credit hours)***
Courses in this perspective emphasize social science approaches to the study of contemporary Latin America such as anthropology, political science, and business language.

*Select 2-3 of the following:*
LTAM 2001 - Topics in Latin American Studies (3)
LTAM 2116 - Contemporary Latin America (3)
LTAM 2117 - Cultures of the Caribbean (3)
LTAM 3001 - Advanced Topics in Latin American Studies (3)
LTAM 3120 - Spanish for Business and International Trade (3)
LTAM 3129 - Cultural Dimension of Doing Business with Spanish-Speaking Countries (3)
LTAM 3144 - Latin American Politics (3)
LTAM 3154 - Political Economy of Latin America (3)
LTAM 3164 - U.S.-Latin American Relations (3)
LTAM 3220 - The Caribbean from Slavery to Independence (3)
LTAM 4010 - Special Topics in Latin American Social Science (3)
LTAM 4116 - Culture and Conflict in the Amazon (3)
LTAM 4120 - Advanced Business Spanish I (3)
LTAM 4121 - Advanced Business Spanish II (3)

***Historical Context Courses (6-9 credit hours)***
Courses in this perspective focus on the historical development of Latin America since Pre-Columbian times, and they include courses in History and Archaeology. -

*Select 2-3 courses from the following. At least one course must focus on the pre-colonial and/or colonial periods. -*
LTAM 2002 - Topics in Latin American Studies (3)
LTAM 2206 - Colonial Latin America (3)
LTAM 2207 - Modern Latin America (3)
LTAM 2252 - New World Archaeology (3)
LTAM 2270 - Latino/as in the United States, 1846 to Present (3)
LTAM 3002 - Advanced Topics in Latin American Studies (3)
LTAM 3220 - The Caribbean from Slavery to Independence (3)
LTAM 3255 - Ancient Latin America (3)
LTAM 3257 - South American Prehistory (3)
LTAM 3260 - Slavery, Racism, and Colonialism in the African Diaspora (3)
LTAM 3270 - Afro-Latin American History (3)
LTAM 3275 - Reform, Riots, and Rebellions in Colonial Spanish America, 1692-1825 (3)
LTAM 3276 - History of Mexico (3)
LTAM 3277 - The Cuban Revolution (3)
LTAM 3278 - History of Brazil (3)
LTAM 3279 - Authoritarianism in Latin America (3)
LTAM 4020 - Topics in Latin American Historiography (3)
SOWK 4106 - Social Work Practice with Latino Communities (3)

***Literature and the Arts Courses (6-9 credit hours)***
Courses in this perspective study the cultural production of Latin American peoples such as the arts, literature and film, and they include courses in Art History, Spanish, and Film Studies. -

*Select 2-3 of the following:*
ENGL 3125 - Introduction to U.S. Latinx Literature (3)
LTAM 2003 - Topics in Latin American Studies (3)
LTAM 3003 - Advanced Topics in Latin American Studies (3)
LTAM 3301 - Mexica (Aztec) Art (3)
LTAM 3309 - Masterpieces of Hispanic Literature in English Translation (3)
LTAM 3310 - Spanish American Civilization and Culture (3)
LTAM 3313 - Pre-Columbian Art (3)
LTAM 3319 - Hispanic Women Writers in English Translation (3)
LTAM 3325 - Introduction to U.S. Latinx Literature (3)
LTAM 3360 - Studies in Hispanic Film (3)
LTAM 4030 - Topics in Latin American Humanities (3)
LTAM 4302 - Caribbean Literature in English (3)
LTAM 4309 - Introduction to Spanish American Literature (3)
LTAM 4310 - Studies in Spanish American Poetry (3)
LTAM 4311 - Studies in Spanish American Prose Fiction (3)
LTAM 4312 - Studies in Spanish American Theater (3)
LTAM 4314 - Studies in Hispanic Children's Literature (3)
LTAM 4315 - Studies in Regional Literature of the Americas (3)
LTAM 4316 - Social, Political, Cultural, Economic Issues in Hispanic Literature (3)
LTAM 4317 - Topics in Hispanic Culture and Civilization (3)
LTAM 4318 - Cuban Literature (3)
LTAM 4350 - Studies in Latin American Literature (3)
SPAN 1512 - Local Arts/Humanities: US Hispanic, Latina/o/x Topics (3)

*Note: Students may take LTAM 2001, LTAM 2002, or LTAM 2003 (Topics in Latin American Studies); or LTAM 3001, LTAM 3002, or LTAM 3003 (Advanced Topics in Latin American Studies) to help fulfill these requirements. As the topics of these courses vary, students may repeat them for credit. An advisor will determine which perspective(s) a given section of LTAM 2001, LTAM 2002, LTAM 2003, LTAM 3001, LTAM 3002, or LTAM 3003 fulfills. With the approval of an advisor, students may also apply up to three credit hours of LTAM 3800 (Independent Study) toward these requirements.*

**Senior Seminar Course (3 credit hours)**
LTAM 4600 - Seminar in Latin American Studies (3)

This seminar may only be taken after completion of at least 18 hours in the major, including LTAM 1501 or 1502, and fulfillment of the language requirement. As the topic of this course varies, it may be taken more than once to fulfill an elective requirement. In that case, the first LTAM 4600 will fulfill a thematic requirement, and the second course will fulfill the capstone requirement.

**Second Major (up to 9 credit hours)**
Students with a second major may count up to 9 credit hours from

courses fulfilling requirements in that major towards requirements for the Latin American Studies degree. Students doing a major/minor combination may count up to 6 hours credit from courses used in the minor towards the requirements for the Major in Latin American Studies. These stipulations include cross-listed courses regardless of program designation under which the course was taken. Exceptions may be approved by an advisor upon consultation with the other program or department. *Note: Students exercising this option should be aware that the accuracy of the online degree audit may be affected.*

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

**Transfer Credit (up to 64 credit hours)**

Up to 64 credit hours may be accepted from a two-year institution. There is no limit on the number of hours that may be accepted from four-year institutions. All students must complete their last 30 credit hours in residence at UNC Charlotte, including the last 12 hours of the major. At the discretion of an advisor, prior life, study, or work experience may be considered in exempting a student from this requirement.

### Degree Total = 120 Credit Hours

### Progression Requirements

To graduate, students majoring in Latin American Studies must have an overall GPA of at least 2.0, including a GPA of at least 2.0 in the major.

## Honors Program in Latin American Studies

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- This optional credential may be awarded to students with a minimum overall GPA of 3.25 and a GPA of at least 3.25 in Latin American Studies courses. To receive honors in Latin American Studies, a student must be approved by the Latin American Studies Honors Committee.

### Progression Requirements

Students who plan to graduate with "Honors in Latin American Studies" must complete the Application to Candidacy process for graduating with honors, as directed by the Honors College, beginning the semester prior to the semester they plan to graduate. They must register for 3 credit hours of LTAM 4700 during their Senior year and present an honors thesis based on in-depth research in primary sources to a committee composed of three members of the Latin American Studies faculty. One of these faculty members will serve as the student's primary honors thesis adviser. Following an oral defense of the thesis, the committee shall award a grade. A thesis awarded a grade of A is acceptable for curricular honors. Students may also obtain honors through the University Honors Program.

## Minor in Latin American Studies

A Minor in Latin American Studies consists of 18 credit hours.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

See University Admission Requirements

### Minor Requirements

**Foundation Course (3 credit hours)**

LTAM 1501 - Global Social Science: Introduction to Latin American Politics and Society (3)
or LTAM 1502 - Global Arts/Humanities: Introduction to Latin American History and Culture (3)

**One Course at 3000- or 4000-Level (3 credit hours)**

Students must take at least one course at the 3000 level to complete the minor.

ENGL 3125 - Introduction to U.S. Latinx Literature (3)
LTAM 3001 - Advanced Topics in Latin American Studies (3)
LTAM 3002 - Advanced Topics in Latin American Studies (3)
LTAM 3003 - Advanced Topics in Latin American Studies (3)
LTAM 3120 - Spanish for Business and International Trade (3)
LTAM 3129 - Cultural Dimension of Doing Business with Spanish-Speaking Countries (3)
LTAM 3144 - Latin American Politics (3)
LTAM 3154 - Political Economy of Latin America (3)
LTAM 3164 - U.S.-Latin American Relations (3)
LTAM 3220 - The Caribbean from Slavery to Independence (3)
LTAM 3255 - Ancient Latin America (3)
LTAM 3257 - South American Prehistory (3)
LTAM 3260 - Slavery, Racism, and Colonialism in the African Diaspora (3)
LTAM 3270 - Afro-Latin American History (3)
LTAM 3275 - Reform, Riots, and Rebellions in Colonial Spanish America, 1692-1825 (3)
LTAM 3276 - History of Mexico (3)
LTAM 3277 - The Cuban Revolution (3)
LTAM 3278 - History of Brazil (3)
LTAM 3279 - Authoritarianism in Latin America (3)
LTAM 3301 - Mexica (Aztec) Art (3)
LTAM 3308 - Introduction to Literary Analysis (3)
LTAM 3309 - Masterpieces of Hispanic Literature in English Translation (3)
LTAM 3310 - Spanish American Civilization and Culture (3)
LTAM 3313 - Pre-Columbian Art (3)
LTAM 3319 - Hispanic Women Writers in English Translation (3)
LTAM 3360 - Studies in Hispanic Film (3)
LTAM 3361 - Studies in Latin American Film (3)
LTAM 3362 - Studies in US Latino/a Cinema (3)
LTAM 3400 - Latin American Studies Internship (1 to 3)
LTAM 3800 - Independent Study (1 to 3)
LTAM 4010 - Special Topics in Latin American Social Science (3)
LTAM 4020 - Topics in Latin American Historiography (3)
LTAM 4030 - Topics in Latin American Humanities (3)
LTAM 4116 - Culture and Conflict in the Amazon (3)
LTAM 4120 - Advanced Business Spanish I (3)
LTAM 4121 - Advanced Business Spanish II (3)
LTAM 4302 - Caribbean Literature in English (3)
LTAM 4309 - Introduction to Spanish American Literature (3)

LTAM 4310 - Studies in Spanish American Poetry (3)
LTAM 4311 - Studies in Spanish American Prose Fiction (3)
LTAM 4312 - Studies in Spanish American Theater (3)
LTAM 4314 - Studies in Hispanic Children's Literature (3)
LTAM 4315 - Studies in Regional Literature of the Americas (3)
LTAM 4316 - Social, Political, Cultural, Economic Issues in Hispanic Literature (3)
LTAM 4317 - Topics in Hispanic Culture and Civilization (3)
LTAM 4318 - Cuban Literature (3)
LTAM 4350 - Studies in Latin American Literature (3)
LTAM 4600 - Seminar in Latin American Studies (3)
LTAM 4700 - Senior Honors Thesis (3 to 6)
SOWK 4106 - Social Work Practice with Latino Communities (3)

**Electives (12 credit hours)**

Among the credit hours required for the minor, not more than 6 credit hours may be double counted with another major or minor. This stipulation includes cross-listed courses, regardless of program designation under which the course was taken. Exceptions may be approved by an advisor upon consultation with the other program or department. Students exercising this option should be aware that the accuracy of the online degree audit may be affected.

Students may take FREN 2201, FREN 2202, PORT 2201, PORT 2202, SPAN 2201, or SPAN 2202 to fulfill these requirements.

Students may take LTAM 2001, LTAM 2002, or LTAM 2003 (Topics in Latin American Studies); or LTAM 3001, LTAM 3002, LTAM 3003 (Advanced Topics in Latin American Studies) to help fulfill these requirements. As the topics of these courses vary, students may repeat them for credit. An advisor will determine which perspective(s) a given section of LTAM 2001, LTAM 2002, LTAM 2003, LTAM 3001, LTAM 3002, or LTAM 3003 fulfills. With the approval of an advisor, students may also apply up to three credit hours of LTAM 3800 toward these requirements.

DANC 2127 - Latin Dance Forms (2)
DANC 2128 - African-Brazilian Dance (2)
ENGL 3125 - Introduction to U.S. Latinx Literature (3)
FREN 2201 - Intermediate French I (3)
FREN 2202 - Intermediate French II (3)
LTAM 1501 - Global Social Science: Introduction to Latin American Politics and Society (3)
LTAM 1502 - Global Arts/Humanities: Introduction to Latin American History and Culture (3)
LTAM 2002 - Topics in Latin American Studies (3)
LTAM 2003 - Topics in Latin American Studies (3)
LTAM 2106 - Religion in Latin America (3)
LTAM 2116 - Contemporary Latin America (3)
LTAM 2117 - Cultures of the Caribbean (3)
LTAM 2206 - Colonial Latin America (3)
LTAM 2207 - Modern Latin America (3)
LTAM 2252 - New World Archaeology (3)
LTAM 2270 - Latino/as in the United States, 1846 to Present (3)
LTAM 3001 - Advanced Topics in Latin American Studies (3)
LTAM 3002 - Advanced Topics in Latin American Studies (3)
LTAM 3003 - Advanced Topics in Latin American Studies (3)
LTAM 3120 - Spanish for Business and International Trade (3)
LTAM 3129 - Cultural Dimension of Doing Business with Spanish-Speaking Countries (3)
LTAM 3144 - Latin American Politics (3)
LTAM 3154 - Political Economy of Latin America (3)
LTAM 3164 - U.S.-Latin American Relations (3)
LTAM 3220 - The Caribbean from Slavery to Independence (3)
LTAM 3255 - Ancient Latin America (3)
LTAM 3257 - South American Prehistory (3)
LTAM 3260 - Slavery, Racism, and Colonialism in the African Diaspora (3)
LTAM 3270 - Afro-Latin American History (3)
LTAM 3275 - Reform, Riots, and Rebellions in Colonial Spanish America, 1692-1825 (3)
LTAM 3276 - History of Mexico (3)
LTAM 3277 - The Cuban Revolution (3)
LTAM 3278 - History of Brazil (3)
LTAM 3279 - Authoritarianism in Latin America (3)
LTAM 3301 - Mexica (Aztec) Art (3)
LTAM 3308 - Introduction to Literary Analysis (3)
LTAM 3309 - Masterpieces of Hispanic Literature in English Translation (3)
LTAM 3310 - Spanish American Civilization and Culture (3)
LTAM 3313 - Pre-Columbian Art (3)
LTAM 3319 - Hispanic Women Writers in English Translation (3)
LTAM 3325 - Introduction to U.S. Latinx Literature (3)
LTAM 3360 - Studies in Hispanic Film (3)
LTAM 3361 - Studies in Latin American Film (3)
LTAM 3362 - Studies in US Latino/a Cinema (3)
LTAM 3400 - Latin American Studies Internship (1 to 3)
LTAM 3800 - Independent Study (1 to 3)
LTAM 4010 - Special Topics in Latin American Social Science (3)
LTAM 4020 - Topics in Latin American Historiography (3)
LTAM 4030 - Topics in Latin American Humanities (3)
LTAM 4116 - Culture and Conflict in the Amazon (3)
LTAM 4120 - Advanced Business Spanish I (3)
LTAM 4121 - Advanced Business Spanish II (3)
LTAM 4302 - Caribbean Literature in English (3)
LTAM 4309 - Introduction to Spanish American Literature (3)
LTAM 4310 - Studies in Spanish American Poetry (3)
LTAM 4311 - Studies in Spanish American Prose Fiction (3)
LTAM 4312 - Studies in Spanish American Theater (3)
LTAM 4314 - Studies in Hispanic Children's Literature (3)
LTAM 4315 - Studies in Regional Literature of the Americas (3)
LTAM 4316 - Social, Political, Cultural, Economic Issues in Hispanic Literature (3)
LTAM 4317 - Topics in Hispanic Culture and Civilization (3)
LTAM 4318 - Cuban Literature (3)
LTAM 4350 - Studies in Latin American Literature (3)
LTAM 4600 - Seminar in Latin American Studies (3)
LTAM 4700 - Senior Honors Thesis (3 to 6)
PORT 2201 - Intermediate Portuguese I (3)
PORT 2202 - Intermediate Portuguese II (3)
SOWK 4106 - Social Work Practice with Latino Communities (3)
SPAN 1512 - Local Arts/Humanities: US Hispanic, Latina/o/x Topics (3)
SPAN 2201 - Intermediate Spanish I (3)
SPAN 2202 - Intermediate Spanish II (3)

## Minor Total = 18 Credit Hours

### Special Policies or Requirements

Among the credit hours required for the minor, not more than 6 credit hours may be double counted with another major or minor. This stipulation includes cross-listed courses, regardless of program designation under which the course was taken. Exceptions may be approved by an advisor upon consultation with the other program or department. Students exercising this option should be aware that the accuracy of the online degree audit may be affected.

Students may take LTAM 2001, LTAM 2002, or LTAM 2003 (Topics in Latin American Studies); or LTAM 3001, LTAM 3002, or LTAM 3003 (Advanced Topics in Latin American Studies) to help fulfill these requirements. As the topics of these courses vary, students may repeat them for credit. An advisor will determine which perspective(s) a given section of LTAM 2001, LTAM 2002, LTAM 2003, LTAM 3001, LTAM 3002, or LTAM 3003 fulfills. With the approval of an advisor, students may also apply up to three credit hours of LTAM 3800 (Independent Study) toward these requirements.

## Early Entry: Master of Arts in Latin American Studies

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

*Note: GRE scores are not required.*

### Progression Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree.

### Special Policies or Requirements

Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

## Accelerated Master's Program

***(for High School Seniors and UNC Charlotte Undergraduate Freshmen)***

Academically talented high school seniors and UNC Charlotte undergraduate freshmen are encouraged to apply to an Accelerated Master's Program to begin work toward both undergraduate and graduate degrees in their Freshman year.

### Admission Requirements

- See University Admission Requirements
- Minimum high school GPA of 3.75 (on a 4.0 scale)
- Minimum score of 1220 on SAT

### Progression Requirements

Students must maintain a strong academic record at both the undergraduate and graduate levels with a cumulative GPA of 3.0 or above.

### Special Policies or Requirements

Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on the Accelerated Master's Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/accelerated-masters.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# Legal Studies

Legal Studies is an interdisciplinary approach to the study of law and society and business.

## Minor in Legal Studies

The Minor in Legal Studies enhances a liberal arts education across traditional disciplines, focusing on the theory and operation of law and legal institutions. The courses in the Minor in Legal Studies expose students to the many facets of law as a social phenomenon - its evolution, function, motivating ideas, and effects. In addition to fostering critical thinking and other transferable skills, the broad base of knowledge about law-related topics that students acquire in this minor better positions them for employment in governmental and nonprofit agencies, as well as business, in which legal knowledge is beneficial.

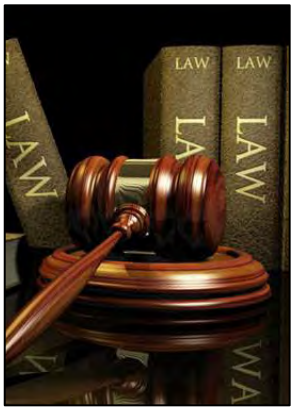
### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- To be accepted into the Minor in Legal Studies, students are required to complete LEGL 1100 with a grade of C or above and have a declared major at UNC Charlotte.

### Minor Requirements

The minor consists of 18 credit hours. Students must take at least 3 credit hours in a Legal Skills course and the remaining 12 credit hours may consist of additional Legal Studies substance courses. A maximum of 6 of these credit hours may be in the student's major. In addition, students may not take more than 6 credit hours from any one major area.




**Foundation Course (3 credit hours)**

LEGL 1100 - Introduction to Law and the Legal System (3)

**Substantive Area Courses (12 credit hours)**

*Select 12 credit hours from the following for a maximum of 6 credit hours from each major area:*

***Africana Studies***

LEGL 3241 - Race and the Law (3)

***Communication Studies***

LEGL 2103 - Argumentation and Debate (3)
LEGL 3141 - Organizational Communication (3)
LEGL 4101 - Media and the Law (3)

***Criminal Justice and Criminology***

LEGL 2320 - Introduction to Courts (3)
LEGL 3320 - Criminal Justice and the Law (3)
LEGL 3321 - Criminal Procedure (3)
LEGL 3354 - Punishment and Freedom (3)
LEGL 3363 - Mediation and Conflict Resolution (3)
LEGL 4320 - Evidence (3)

***Legal Studies***

LEGL 3000 - Topics in Legal Studies (3)
LEGL 3100 - Topics in Legal Skills (3)

***Philosophy***

LEGL 1105 - Critical Thinking (3)
LEGL 1106 - Critical Thinking (3)
LEGL 2105 - Deductive Logic (3)
LEGL 3810 - Social and Political Philosophy (3)

***Political Science and Public Administration***

LEGL 3113 - Constitutional Law and Policy (3)
LEGL 3115 - Civil Rights and Liberties (3)
LEGL 3116 - Judicial Process (3)
LEGL 3117 - Gender and the Law (3)
LEGL 3137 - International Human Rights (3)
LEGL 3162 - International Law (3)
LEGL 3175 - Philosophy of Law (3)
LEGL 3810 - Social and Political Philosophy (3)
LEGL 4110 - North Carolina Student Legislature (3)

***Psychology***

LEGL 2131 - Introduction to Forensic Psychology (3)

***Sociology***

LEGL 4265 - Social Psychology of Law (3)

**Skills Area Courses (3 credit hours)**

*Select one of the following not already taken to fulfill the Substantive Area Course requirement above:*

LEGL 1105 - Critical Thinking (3)
LEGL 1106 - Critical Thinking (3)
LEGL 2103 - Argumentation and Debate (3)
LEGL 2105 - Deductive Logic (3)
LEGL 3100 - Topics in Legal Skills (3)
LEGL 3363 - Mediation and Conflict Resolution (3)
LEGL 4110 - North Carolina Student Legislature (3)
LEGL 4320 - Evidence (3)

### Minor Total = 18 Credit Hours

### Progression Requirements

Students are required to earn a C or above in all courses that are counted toward the minor. No courses counted toward the minor may be taken with Pass/No Credit grading.

# Women's and Gender Studies

The Women's and Gender Studies interdisciplinary program offers undergraduate and graduate students opportunities to learn about issues relating to gender, women, and feminism. Students may choose to take individual courses, a cluster of related courses, or a full Minor in Women's and Gender Studies. The Women's and Gender Studies program is committed to fostering personal growth by challenging gender stereotypes of women and men and equipping individuals with the knowledge and skills necessary to empower women and improve gender relations in an ever changing society. Most students find Women's and Gender Studies courses personally interesting, as well as helpful preparation for careers in health and human services, education, law, human resources, art, and business.

## Minor in Women's and Gender Studies

The goal of the Minor in Women's and Gender Studies is to develop students' understanding of the ways gender has shaped lived experience in the past, present, and around the world. As such, it complements a wide variety of majors. The knowledge and skills that Women's and Gender Studies minors develop help them find employment in business, healthcare, education, government, and the non-profit sector.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

See University Admission Requirements

### Minor Requirements

The Minor in Women's and Gender Studies is open to all students regardless of gender and requires completion of at least 18 credit hours in approved courses. Women's and Gender Studies minors can take courses in a wide variety of fields (e.g., History, Sociology, English, Psychology, Public Health, Anthropology). With proper planning, the minor can be integrated with most majors. A maximum of 9 credit hours may be earned from any one department or program outside of Women's and Gender Studies.

**Required Courses (6 credit hours)**

WGST 1502 Global Arts/Humanities: Introduction to Gender Studies Around the World (3)
or WGST 1512 - Local Arts/Humanities: Introduction to Gender Studies in the U.S. (3)
WGST 3220 - Feminist Thought (3)

**Elective Courses (12 credit hours)**

Any WGST 4xxx course (3)
Related elective courses (9)

Elective courses can be chosen from any WGST prefix course or any other department's or program's offerings, as long as (a) the course deals substantially with gender, women, feminism, sexuality, or related social movements and (b) the courses are approved by the Director of Women's and Gender Studies. Students minoring in Women's and Gender Studies should check their choices of electives with the Director of Women's and Gender Studies, both when they are planning their minor and when they are reviewing it in preparation for graduation.

Examples of courses in other departments that count as Women's and Gender Studies electives include, *but are not limited to:*

AFRS 2215 - Black Families in the United States (3)
ENGL 3158 - Gender in African American Literature (3)
ANTH 2090 - Gender in a Transforming Africa (3)
or AFRS 3050 - Gender in a Transforming Africa (3)
ANTH 2090 - Gender, Culture, and Communication (3)
ANTH 2123 - Women in Cross-Cultural Perspective (3)
ANTH 4131 - Culture, Pregnancy, and Birth (3)
CJUS 4363 - Gender, Race, and Justice (3)
COMM 2110 - Women and the Media (3)
COMM 3110 - Gender and Communication (3)
ENGL 4002 - Women and Literature (3)
ENGL 4050 - Gender and Shakespeare (3)
ENGL 4050 - Native American Women (3)
GRNT 4260 - Women: Middle Age and Beyond (3)
HIST 2150 - U.S. Women's History to 1877 (3)
HIST 2151 - U.S. Women's History Since 1877 (3)
HIST 2152 - European Women's History (3)
HIST 2155 - Southern Women's History (3)
or AMST 3050 - Southern Women's History (3)
PHIL 3261 - Feminist Philosophy (3)
PSYC 3356 - Psychology of Women and Gender (3)
RELS 3000 - Religion and Gender (3)
RELS 3215 - Religion and Sexuality (3)
SOCY 2132 - Sociology of Marriage and the Family (3)
SOCY 2163 - Sociology of Gender (3)
SOCY 3261 - Human Sexuality (3)
SOCY 4090 - New Theoretical Approaches to Gender (3)
SOCY 4165 - Sociology of Women (3)
SPAN 3019 - Hispanic Women Writers in English Translation (3)
THEA 4001 - Violent Film Females (3)
THEA 4001 - Women's Writings Onscreen (3)

*Note: A complete list of courses approved for the Minor in Women's and Gender Studies is available in the Office of Interdisciplinary Studies.*

### Minor Total = 18 Credit Hours

### Progression Requirements

Students must receive a grade of C or above in WGST 1502 or WGST 1512 and WGST 3220 for these courses to count toward the minor requirements.

## Early Entry: Graduate Certificate in Gender, Sexuality, and Women's Studies

Exceptional undergraduate students at UNC Charlotte may apply to either of these Early Entry Programs to begin work toward a graduate

degree before completion of the baccalaureate degree.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 70 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.0 overall undergraduate GPA
- Minimum 2.0 GPA in WGST 1502 or WGST 1512 and WGST 3220
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents (i.e., transcripts and a brief personal statement)
- Recommendation by the Graduate Program Director and approved by the Graduate School (no additional external recommendation letters required for application)

*Note: Standardized test scores (e.g., GRE, MAT) are not required.*

### Progression Requirements

- Completion of Early Entry Program Form, with signatures indicating approval by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree.

### Special Policies or Requirements

Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

These courses include, but are not limited to:
WGST 4160 - The Politics of the Body (3)
WGST 4170 - Queer Theory (3) / WGST 5170 - Queer Theory (3)
WGST 4050 - Topics in Women's Studies (1 to 3) / WGST 5050 - Topics in Women's Studies (1 to 3)
WGST 6000-level courses

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# Department of Languages, Cultures and Translation

languages.charlotte.edu

## Undergraduate Programs

- B.A. in French
  - Honors Program
- B.A. in German
  - Honors Program
- B.A. in Japanese Studies
  - Honors Program
- B.A. in Spanish
  - Honors Program
- Minor in Arabic Studies
  - Honors Program
- Minor in Chinese
  - Honors Program
- Minor in Francophone Studies
  - Honors Program
- Minor in French
  - Honors Program
- Minor in German
  - Honors Program
- Minor in Italian Studies
  - Honors Program
- Minor in Japanese
  - Honors Program
- Minor in Spanish
  - Honors Program
- Undergraduate Certificate in LANG: Business Languages
  - French
  - German
  - Japanese
  - Spanish
- Undergraduate Certificate in LANG: German for Engineering
- Undergraduate Certificate in LANG: Hispanic Literary Studies
- Undergraduate Certificate in LANG: Translating
  - French-English
  - German-English
  - Japanese-English
  - Russian-English
  - Spanish-English
- Early Entry: M.A. in Spanish

- **Early Entry: Graduate Certificate in LANG: Business Language**
- **Early Entry: Graduate Certificate in LANG: Translating**
- **Early Entry: Graduate Certificate in LANG: Translation and Interpreting Studies, Spanish-English**

The Department of Languages, Cultures, and Translation offers study in strategically selected languages, literatures, and film to develop students' language skills, cultural knowledge, literacy, and critical thinking in order to prepare its graduates for participation and leadership in an increasingly global, multicultural, and multilingual society. In addition to the Majors and Minors in French, German, Japanese and Spanish, the department offers Minors in Arabic Studies, Chinese, Francophone Studies, Italian, and Russian. It also offers undergraduate certificates in Translating, and Business Language in several languages, as well as German for Engineering and Hispanic Literary Studies. Languages not taught at UNC Charlotte can be studied through the NC Language Exchange.

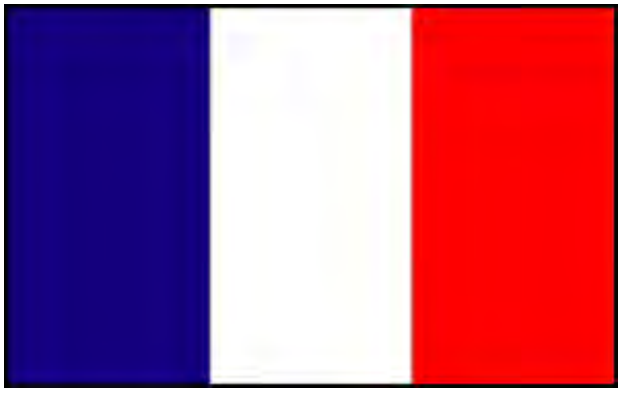
Students interested in foreign language study are encouraged to explore the following options:

- A single major in French, German, Japanese, or Spanish, based on the standard liberal arts model, with or without teaching licensure
- A double major in a foreign language and another discipline or in two languages
- A foreign language minor in Arabic, Chinese, Francophone Studies, French, German, Italian, Japanese, Russian, or Spanish
- A concentration in one or more languages to complement a major in another academic area
- A concentration of courses leading to a certificate

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

## Study Abroad, Scholarships, Awards

The department strongly encourages all students to participate in a study abroad program and sponsors exchange programs with universities across Europe, Asia, Central and South America. The department offers various scholarships and awards to support study abroad and reward academic excellence. For detailed information on these opportunities, consult the website of the Department of Languages, Cultures, and Translation.



# French

## Bachelor of Arts in French

A Major in French requires 31 credit hours, after elementary courses are completed.

### Admission Requirements

**Freshmen and Transfers**

- *Minimum GPA:* 2.0
- Students should consult the Guidance on Language Placement and Exemption on the department's web page for more specific guidelines regarding placement.
- *Transferable Credit Hours:* 24

### Degree Requirements

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Major Courses (31 credit hours)**

***Core Courses (15 credit hours)***

FREN 2201 - Intermediate French I (3)
FREN 2202 - Intermediate French II (3)
FREN 3201 - French Grammar and Conversation (3)
FREN 3202 - French Grammar and Composition (3)
FREN 3209 - France Today (3)

***3000-level Courses (6 credit hours)***

*Choose two:*
FREN 3203 - Introduction to French Literature (3)
FREN 3207 - French Phonetics (3)
FREN 3210 - Introduction to Business French (3)
FREN 3220 - Introduction to the Francophone World (3)

***4000-level Courses (6 credit hours)***

*Choose two:*
FREN 4003 - Studies in French Literature (3)
FREN 4005 - Studies in the French Language (3)
FREN 4007 - Studies in French Culture and Civilization (3)
FREN 4120 - Advanced Business French I (3)
FREN 4121 - Advanced Business French II (3)
FREN 4201 - Survey of French Literature I (3)
FREN 4202 - Survey of French Literature II (3)
TRAN 4402 - Practicum in Translating I - French (3)
TRAN 4403 - Practicum in Translating II - French (3)
TRAN 4404 - Practicum in Translating III - French (3)

***Electives (3 credit hours)***

*Choose one:*
FREN 1502 - Global Arts/Humanities: French and Francophone Cultures (3)
FREN 3050 - Topics in French (1 to 3)
FREN 3203 - Introduction to French Literature (3)
FREN 3207 - French Phonetics (3)
FREN 3210 - Introduction to Business French (3)
FREN 3220 - Introduction to the Francophone World (3)

FREN 3225 - Short-Term Abroad (3)
FREN 4003 - Studies in French Literature (3)
FREN 4050 - Topics in French (1 to 3)
FREN 4005 - Studies in the French Language (3)
FREN 4120 - Advanced Business French I (3)
FREN 4007 - Studies in French Culture and Civilization (3)
FREN 4121 - Advanced Business French II (3)
FREN 4201 - Survey of French Literature I (3)
FREN 4202 - Survey of French Literature II (3)
FREN 4410 - Professional Internship in French (1 to 6)
TRAN 4402 - Practicum in Translating I - French (3)
TRAN 4403 - Practicum in Translating II - French (3)
TRAN 4404 - Practicum in Translating III - French (3)

*Notes:*
Students exempted from FREN 2201, FREN 2202, FREN 3201, and FREN 3202 must take the equivalent number of credit hours in elective courses.

**Senior Seminar (1 credit hour)**
LANG 4690 - Senior Seminar (1)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

### Progression Requirements
GPA of 2.0 is required. Introductory language courses may not be taken on a *Pass/No Credit Basis* if they are being used to fulfill a college or departmental foreign language requirement. Students with a Foreign Language major or minor may not take required courses in the department on a *Pass/No Credit Basis*.

### Teacher Licensure
The Department of Languages, Cultures, and Translation, in collaboration with the Department of Middle, Secondary, and K-12 Education, offers a program to prepare students for K-12 teacher licensure in North Carolina. Students seeking licensure to teach a foreign language must fulfill the General Education requirements, the foreign language major, two foreign language teaching methods courses, and satisfy all other requirements specified by the College of Education. Students planning to specialize in foreign language education should apply through the Coordinator for Foreign Language Education during the first semester of the Sophomore year to obtain appropriate advising. Licensure applications are the responsibility of the student and the Office of Teacher Education Advising and Licensure (TEAL) in the College of Education.

## Minor in Francophone Studies
The Minor in Francophone Studies allows students interested in topics related to the French-speaking world the opportunity to acquire a basic level of cultural competency by taking courses taught in English and offered across a range of disciplines; including, but not limited to: Africana Studies, Film, History, Latin American Studies, Languages and Culture Studies, Philosophy, and Women's Studies. In addition to fostering critical thinking and other transferable skills, the broad base of knowledge about Francophone-related topics that students acquire in this minor positions them to work for companies and agencies that serve the growing Francophone population in our region and worldwide. Career possibilities include: 1) the foreign service, the military, and other governmental agencies; 2) non-governmental organizations with an emphasis on international or cross-cultural orientations; and 3) international business.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

### Minor Requirements
Students must complete a minimum of 15 credit hours in courses approved for Francophone Studies credit.

**Core Course (3 credit hours)**
FRAN/FREN 1502 Global Arts/Humanities - French & Francophone Cultures (3)
or FREN 3220 Introduction to the Francophone World (3)

**Elective Courses (12 credit hours)**
Students must choose four of the following electives, three of which must be taken at the 3000-level or above. Courses may be repeated with a change of topic.

FRAN 1502 - Global Arts/Humanities: French and Francophone Cultures (3)
FRAN 1512 - Local Arts/Humanities: French and Francophone Cultures in the U.S. (3)
FRAN 2050 - Topics in Francophone Studies (3)
FRAN 2200 French Civilization (3)
FRAN 3001 - Advanced Topics in Francophone Studies (Economy and Society) (3)
FRAN 3002 - Advanced Topics in Francophone Studies (Historical Context) (3)
FRAN 3003 - Advanced Topics in Francophone Studies (Arts and Literature) (3)
FRAN 3004 - Advanced Topics in Francophone Studies (Film) (3)
FRAN 3005 - Advanced Topics in Francophone Studies (Philosophy and Intellectual History) (3)
FREN 3225 Short-Term Abroad (3)

**French Courses**
With their advisor's approval, Francophone Studies Minors who wish to complete their coursework in French may count up to 3 of the following courses. Courses that count toward the Francophone Studies Minor cannot simultaneously count toward the French major or minor.
FREN 2201 Intermediate French I (3)
FREN 2202 Intermediate French II (3)
FREN 3201 French Grammar and Conversation (3)
FREN 3202 French Grammar and Composition (3)
FREN 3203 Introduction to French Literature (3)
FREN 3207 French Phonetics (3)

FREN 3209 France Today (3)
FREN 3210 Introduction to Business French (3)
FREN 3220 Introduction to the Francophone World (3)
FREN 3225 Short-Term Abroad (3)
FREN 4003 Studies in French Literature (3)
FREN 4005 Studies in the French Language (3)
FREN 4007 Studies in French Culture and Civilization (3)
FREN 4050 Topics in French (3)
FREN 4120 Advanced Business French I (3)
FREN 4121 Advanced Business French II (3)
FREN 4201 Survey of French Literature I (3)
FREN 4202 Survey of French Literature II (3)
FREN 4410 Professional Internship in French (1 to 6)
FREN 4800 Directed Internship in French (1 to 3)
TRAN 4402 Practicum in Translating I - French (3)
TRAN 4403 Practicum in Translating II - French (3)
TRAN 4404 Practicum in Translating III - French (3)

### Minor Total = 15 Credit Hours

### Foreign Language Requirement

Students must demonstrate linguistic competency equivalent to two semesters of French language (FREN 1202 or equivalent) prior to completion of the minor.

### Study Abroad Experience

Courses taken while studying abroad may count toward the Minor in Francophone Studies. To learn more about study abroad programs, contact the Program Director.

## Minor in French

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

See University Admission Requirements

A Minor in French requires 21 credit hours (7 courses) above the FREN 1202 level.

**Core Courses (15 credit hours)**

FREN 2201 - Intermediate French I (3)
FREN 2202 - Intermediate French II (3)
FREN 3201 - French Grammar and Conversation (3)
FREN 3202 - French Grammar and Composition (3)
FREN 3209 - France Today (3)

**3000- and 4000-level Courses (3 Credit Hours)**

*Select one:*
FREN 3203 - Introduction to French Literature (3)
FREN 3207 - French Phonetics (3)
FREN 3210 - Introduction to Business French (3)
FREN 3220 - Introduction to the Francophone World (3)
FREN 4003 - Studies in French Literature (3)
FREN 4005 - Studies in the French Language (3)
FREN 4007 - Studies in French Culture and Civilization (3)
FREN 4120 - Advanced Business French I (3)
FREN 4121 - Advanced Business French II (3)
FREN 4201 - Survey of French Literature I (3)
FREN 4202 - Survey of French Literature II (3)
TRAN 4402 - Practicum in Translating I - French (3)
TRAN 4403 - Practicum in Translating II - French (3)

**Elective Courses (3 credit hours)**

*Select one:*
FREN 1502 - Global Arts/Humanities: French and Francophone Cultures (3)
FREN 3050 - Topics in French (1 to 3)
FREN 3203 - Introduction to French Literature (3)
FREN 3207 - French Phonetics (3)
FREN 3210 - Introduction to Business French (3)
FREN 3220 - Introduction to the Francophone World (3)
FREN 3225 - Short-Term Abroad (3)
FREN 4003 - Studies in French Literature (3)
FREN 4005 - Studies in the French Language (3)
FREN 4007 - Studies in French Culture and Civilization (3)
FREN 4050 - Topics in French (1 to 3)
FREN 4120 - Advanced Business French I (3)
FREN 4121 - Advanced Business French II (3)
FREN 4201 - Survey of French Literature I (3)
FREN 4202 - Survey of French Literature II (3)
TRAN 4402 - Practicum in Translating I - French (3)
TRAN 4403 - Practicum in Translating II - French (3)
TRAN 4404 - Practicum in Translating III - French (3)

**Elective Courses**

*One of the following may be substituted for one required course:*
FREN 1502 Global Arts/Humanities - French & Francophone Cultures (3)
or FREN 1512 Local Arts /Humanities - French & Francophone Cultures in the U.S. (3)
FREN 2209 - French Civilization (3)
FREN 3050 - Topics in French (1 to 3)
FREN 3225 Short-Term Abroad (3)
FREN 4050 - Topics in French (1 to 3)
FREN 4120 - Advanced Business French I (3)
FREN 4121 - Advanced Business French II (3)
FREN 4410 - Professional Internship in French (1 to 6)
TRAN 4402 - Practicum in Translating I - French (3)
TRAN 4403 - Practicum in Translating II - French (3)
TRAN 4404 - Practicum in Translating III - French (3)

* Notes: Students waived from FREN 2201, 2202, 3201 and 3202 must take the equivalent number of credit hours in elective courses.

### Minor Total = 21 Credit Hours

## Undergraduate Certificate in LANG: Business French

The Certificate in LANG: Business Languages program (CBL) provides classroom, overseas (optional), and practical training in French for international business, which may also be recognized by international examinations. The certificate requires 15 credit hours. Beginning with an alternative fourth-semester course, the sequence continues with advanced-level coursework that includes a two-semester component in advanced business French. Majors in any field are welcome.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students:**
See University Admission Requirements

### Certificate Requirements
**Required Courses (6 credit hours)**
FREN 4120 - Advanced Business French I (3)
FREN 4121 - Advanced Business French II (3)

**Elective Courses (9 credit hours)**
Select any three FREN courses at the 3000 level or above. FREN 4410 will also be accepted.

### Certificate Total = 15 Credit Hours

### Progression Requirements
In order to be awarded the CBL, each course that counts for the certificate must be completed with a grade of B or above.

## Undergraduate Certificate in LANG: Translating French-English
An Undergraduate Certificate in LANG: Translating (CT) is not equivalent to a major in a foreign language; rather it represents a theory-based skill developed at the Bachelor's degree level. The CT may complement a major in any field, and is especially recommended for Majors and Minors in French, Global Studies, or International Business. All courses for the CT involve, but are not limited to, translating into English from the source text. A CT in French-English may be earned by completing 12 credit hours.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students:**
*See University Admission Requirements*

### Certificate Requirements
TRAN 3601 - Introduction to Translation and Interpreting Studies (3)
TRAN 4402 - Practicum in Translating I - French (3)
TRAN 4403 - Practicum in Translating II - French (3)
TRAN 4404 - Practicum in Translating III - French (3)

### Certificate Total = 12 Credit Hours

### Progression Requirements
All courses must be completed with a grade of B or above.

# German

## Bachelor of Arts in German
A Major in German leading to a B.A. degree requires 31 credit hours of German coursework above GERM 1202.

### Admission Requirements
**Freshmen and Transfers**
- See University Admission Requirements
- *Minimum GPA:* 2.0
- Students should consult the Guidance on Language Placement and Exemption on the department's web page for more specific guidelines regarding placement.
- *Transferable Credit Hours:* 24

### Degree Requirements
**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Major Courses (31 credit hours)**
***Core Major Courses (15 credit hours)***
*Core Language Courses (12 credit hours)*
GERM 2201 - Intermediate German I (3)
GERM 2202 - Intermediate German II (3)
GERM 3201 - Advanced German Language and Culture I (3)
GERM 3202 - Advanced German Language and Culture II (3)f

*Core Content Course (3 credit hours)*
GERM 1502 - Global Arts/Humanities: German and German-Speaking Cultures (3)

***Elective 3000-Level Courses (6 credit hours)***
*Select two of the following:*
GERM 3050 - Topics in German Culture: German Culture (English) (3)
GERM 3051 - Topics in German Culture: German Culture (German) (3)
GERM 3650 - The Holocaust in German Literature and Film (3)
GERM 3660 - Survey of German Film (3)
GERM 3670 - Seminar: German-American Culture for Business and Engineering I (English) (3)

GERM 3680 - Seminar: German-American Culture for Business and Engineering II (English) (3)
GERM 3690 - Seminar: Career Planning for the German-American Business World (3)

***Elective 4000-Level Courses (9 credit hours)***
*Select three of the following:*
GERM 4051 - Topics in German Culture (1 to 3)
GERM 4061 - Topics in German Language (1 to 3)
GERM 4410 - Professional Internship in German (3) *(up to 6 credit hours)*
GERM 4661 - Advanced Seminar in Business German I (3)
GERM 4671 - Advanced Seminar in Business German II (3)
GERM 4800 - Directed Individual Study (1 to 3)
TRAN 4412 - Practicum in Translating I - German (3)
TRAN 4413 - Practicum in Translating II - German (3)
TRAN 4414 - Practicum in Translating III - German (3)

***Senior Seminar (1 credit hour)***
LANG 4690 - Senior Seminar (1)

**Add-On Certificates**
Students with a Major in German may choose to add three undergraduate certificates to their major. Up to 9 credit hours may be double-counted for the major and certificate.

- Undergraduate Certificate in LANG: German for Engineering (12 credit hours)
- Undergraduate Certificate in LANG: Business German (12 credit hours)
- Undergraduate Certificate in LANG: Translating German-English (12 credit hours)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

### Progression Requirements
GPA of 2.0 is required. Introductory language courses may not be taken on a *Pass/No Credit Basis* if they are being used to fulfill a college or departmental foreign language requirement. Students with a Foreign Language major or minor may not take required courses in the department on a *Pass/No Credit Basis*.

### Teacher Licensure
The Department of Languages, Cultures, and Translation, in collaboration with the Department of Middle, Secondary, and K-12 Education, offers a program to prepare students for K-12 teacher licensure in North Carolina. Students seeking licensure to teach a foreign language must fulfill the General Education requirements, the foreign language major, two foreign language teaching methods courses, and satisfy all other requirements specified by the College of Education. Students planning to specialize in foreign language education should apply through the Coordinator for Foreign Language Education during the first semester of the Sophomore year to obtain appropriate advising. Licensure applications are the responsibility of the student and the Office of Teacher Education Advising and Licensure (TEAL) in the College of Education.

## Minor in German
A Minor in German requires six courses (18 credit hours) above GERM 1202.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

### Minor Requirements
**Core Courses (12 credit hours)**
GERM 2201 - Intermediate German I (3)*
GERM 2202 - Intermediate German II (3)*
GERM 3201 - Advanced German Language and Culture I (3)
GERM 3202 - Advanced German Language and Culture II (3)

**Students waived from GERM 2201 and/or GERM 2202 must take the equivalent number of credit hours in 3000- or 4000-level courses.*

**Elective Courses (6 credit hours)**
GERM 3xxx-4xxx - German Elective (3)
GERM 3xxx-4xxx - German Elective (3)

### Minor Total = 18 Credit Hours

## Undergraduate Certificate in LANG: Business German
The Undergraduate Certificate in LANG: Business Languages program (CBL) provides classroom, overseas (optional), and practical training in German for international business, which may also be recognized by international examinations. The certificate requires 12 credit hours. The sequence contains a two-semester component in advanced business German. Majors in any field are welcome.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students:**
See University Admission Requirements

### Certificate Requirements
**Courses Taught in German (6 credit hours)**
GERM 4661 - Advanced Seminar in Business German I (3)
GERM 4671 - Advanced Seminar in Business German II (3)

**Courses Taught in English (6 credit hours)**
*Select two of the following:*
GERM 3670 - Seminar: German-American Culture for Business and Engineering I (English) (3)
GERM 3680 - Seminar: German-American Culture for Business and Engineering II (English) (3)

GERM 3690 - Seminar: Career Planning for the German-American Business World (3)

### Total = 12 Credit Hours

### Progression Requirements
In order to be awarded the CBL, each course that counts for the certificate must be completed with a grade of B or above.

### Special Policies or Requirements
GERM 3670, GERM 3680,and GERM 3690, which are taught in English, may double count toward the German Major and Minor.

## Undergraduate Certificate in LANG: German for Engineering
The Undergraduate Certificate in LANG: German for Engineering (UCGE) provides classroom, overseas (optional), and practical training in German for Engineering. The certificate requires 12 credit hours.

### Admission Requirements
Students may begin the certificate as freshmen. There are no prerequisites. Majors in any field are welcome. See University Admission Requirements.

### Certificate Requirements
**Courses Taught in German (6 credit hours)**
GERM 2201 - Intermediate German I (3)
GERM 2202 - Intermediate German II (3)

**Courses Taught in English (6 credit hours)**
*Select two of the following:*
GERM 3670 - Seminar: German-American Culture for Business and Engineering I (English) (3)
GERM 3680 - Seminar: German-American Culture for Business and Engineering II (English) (3)
GERM 3690 - Seminar: Career Planning for the German-American Business World (3)

### Progression Requirements
- Beginning with two courses in the German language at the 2000-level, the sequence continues with a selection of two out of three 3000-level seminars on German-American culture for Business and Engineering taught in English.
- A grade of C or above is required for all courses in the certificate.

### Certificate Total = 12 Credit Hours

### Special Policies or Requirements
GERM 3670, GERM 3680, and GERM 3690 can double count toward the German Major and Minor.

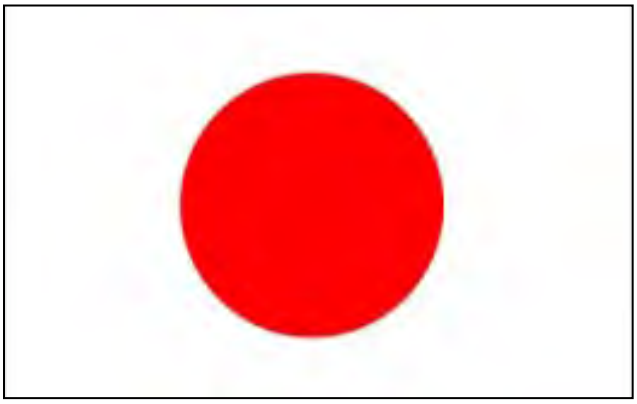
## Undergraduate Certificate in LANG: Translating German-English
An Undergraduate Certificate in LANG: Translating (CT) is not equivalent to a major in a foreign language; rather it represents a theory-based skill developed at the Bachelor's degree level. The CT may complement a major in any field, and is especially recommended for Majors and Minors in German, Global Studies, or International Business. All courses for the CT involve, but are not limited to, translating into English from the source text. A CT in German-English may be earned by completing 12 credit hours.

### Certificate Requirements
TRAN 3601 - Introduction to Translation and Interpreting Studies (3)
TRAN 4412 - Practicum in Translating I - German (3)
TRAN 4413 - Practicum in Translating II - German (3)
TRAN 4414 - Practicum in Translating III - German (3)

### Certificate Total = 12 Credit Hours

### Progression Requirements
All courses must be completed with a grade of B or above.

### Special Policies or Requirements
TRAN 4412, TRAN 4413, and TRAN 4414 may be double-counted toward the German major or minor.



# Japanese

## Bachelor of Arts in Japanese Studies
A Major in Japanese Studies leading to a B.A. degree requires 34 hours of coursework above JAPN 1202.

### Admission Requirements
**Freshmen and Transfers**
- See University Admission Requirements
- *Minimum GPA:* 2.0
- Students should consult the Guidance on Language Placement and Exemption on the department's web page for more specific guidelines regarding placement.
- *Transferable Credit Hours:* 24

## Degree Requirements

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Major Courses (34 credit hours)**

***Core Major Courses (15 credit hours)***

JAPN 2201 - Intermediate Japanese I (3)
JAPN 2202 - Intermediate Japanese II (3)
JAPN 3201 - Upper Intermediate Japanese I (3)
JAPN 3202 - Upper Intermediate Japanese II (3)
JAPN 3203 - Upper Intermediate Japanese III (3)

***Elective Courses up to 3000-Level (9 credit hours)***

*Select 3 of the following:*

HIST 3165 - History of Modern Japan (3)
JAPN 2050 - Topics in Japanese (1 to 3)
JAPN 2208 - Japanese Culture and Society (3)
JAPN 3040 - Topics in Japanese Culture (1 to 3)
JAPN 3050 - Topics in the Japanese Language (1 to 3)
JAPN 3060 - Topics in Japanese Film (3)
JAPN 3101 - Kanji through Reading (3)
JAPN 3130 - Business and Culture in Japan (3)
JAPN 3140 - Anime: Genres, Themes and History (3)
JAPN 3225 - Short-Term Abroad (3)
JAPN 3400 - Teaching Practicum (3)
JAPN 3800 - Directed Individual Study (1 to 3)

***4000-Level Elective Courses (9 credit hours)***

*Select three of the following:*

JAPN 4040 - Advanced Topics in Japanese Media and Culture (3)
JAPN 4050 - Topics in Japanese (1 to 3)
JAPN 4206 - Advanced Spoken Business Japanese (3)
JAPN 4207 - Business Japanese Writing (3)
JAPN 4410 - Professional Internship in Japanese (1 to 6)
TRAN 4422 - Practicum in Translating I - Japanese (3)
TRAN 4423 - Practicum in Translating II - Japanese (3)
TRAN 4424 - Practicum in Translating III - Japanese (3)

**Senior Seminar (1 credit hour)**

LANG 4690 - Senior Seminar

**Exam**

An oral exam is administered by a staff member and based on the An oral exam is administered by a staff member and based on the proficiency standards of the American Council on the Teaching of Foreign Language (ACTFL). Reading, writing, and listening competencies, as well as Japanese grammatical knowledge, will be assessed by an internally created test based on the internationally accredited Japanese Proficiency Language Test (JLPT).

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

**Undergraduate Certificate Courses**

Credit from courses taken for the Undergraduate Certificate in LANG: Translating Japanese-English may count toward the B.A. in Japanese Studies but are limited to two courses (6 credit hours).

## Degree Total = 120 Credit Hours

## Progression Requirements

An overall GPA of 2.0 is required. All courses for the Major in Japanese must be passed with a grade of C or above. Introductory language courses may not be taken on a *Pass/No Credit Basis* if they are being used to fulfill a college or departmental foreign language requirement. Students with a Foreign Language major or minor may not take required courses in the department on a *Pass/No Credit Basis*.

## Teacher Licensure

The Department of Languages, Cultures, and Translation, in collaboration with the Department of Middle, Secondary, and K-12 Education, offers a program to prepare students for K-12 foreign language teacher licensure in North Carolina. Students seeking licensure to teach a foreign language (i.e., French, German, Japanese, or Spanish) must fulfill the General Education requirements, the foreign language major, and satisfy all teacher licensure requirements specified by the College of Education. Students planning to specialize in foreign language education should apply through the Coordinator for Foreign Language Education during the first semester of the Sophomore year to obtain appropriate advising. Licensure applications are the responsibility of the student and the Office of Teacher Education Advising and Licensure (TEAL) in the College of Education.

# Minor in Japanese

The Minor in Japanese requires a total of 21 credit hours of coursework. 15 credit hours come from five core courses. The remaining 6 credit hours come from two elective courses.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

See University Admission Requirements

## Minor Requirements

**Core Courses (15 credit hours)**

JAPN 2201 - Intermediate Japanese I (3)
JAPN 2202 - Intermediate Japanese II (3)
JAPN 3201 - Upper Intermediate Japanese I (3)
JAPN 3202 - Upper Intermediate Japanese II (3)
JAPN 3203 - Upper Intermediate Japanese III (3)

**Elective Courses (6 credit hours)**

*Select two courses from the following.*

HIST 3165 - History of Modern Japan (3)
JAPN 1502 - Global Arts/Humanities: Japanese Studies (3)
JAPN 2050 - Topics in Japanese (1 to 3)
JAPN 2208 - Japanese Culture and Society (3)

JAPN 3040 - Topics in Japanese Culture (1 to 3)
JAPN 3050 - Topics in the Japanese Language (1 to 3)
JAPN 3060 - Topics in Japanese Film (3)
JAPN 3101 - Kanji through Reading (3)
JAPN 3130 - Business and Culture in Japan (3)
JAPN 3140 - Anime: Genres, Themes and History (3)
JAPN 3225 - Short-Term Abroad (3)
JAPN 3400 - Teaching Practicum (3)
JAPN 3800 - Directed Individual Study (1 to 3)
JAPN 4040 - Advanced Topics in Japanese Media and Culture (3)
JAPN 4050 - Topics in Japanese (1 to 3)
JAPN 4206 - Advanced Spoken Business Japanese (3)
JAPN 4207 - Business Japanese Writing (3)
JAPN 4410 - Professional Internship in Japanese (1 to 6)
TRAN 4422 - Practicum in Translating I - Japanese (3)
TRAN 4423 - Practicum in Translating II - Japanese (3)
TRAN 4424 - Practicum in Translating III - Japanese (3)

### Minor Total = 21 Credit Hours

## Undergraduate Certificate in LANG: Business Japanese

The Certificate in LANG: Business Languages program (CBL) provides classroom, overseas (optional), and practical training in Japanese for international business, which may also be recognized by international examinations. The certificate requires 12 credit hours. Beginning with an alternative fourth-semester course, the sequence continues with advanced-level coursework that includes a two-semester component in advanced business Japanese. Majors in any field are welcome.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

### Certificate Requirements

**Required Courses (12 credit hours)**
JAPN 3130 - Business and Culture in Japan (3)
JAPN 3201 - Upper Intermediate Japanese I (3)
or JAPN 3202 - Upper Intermediate Japanese II (3)
or JAPN 3203 - Upper Intermediate Japanese III (3)
JAPN 4206 - Advanced Spoken Business Japanese (3)
JAPN 4207 - Business Japanese Writing (3)

### Certificate Total = 12 Credit Hours

### Progression Requirements

In order to be awarded the CBL, each course that counts for the certificate must be completed with a grade of B or above.

## Undergraduate Certificate in LANG: Translating Japanese-English

An Undergraduate Certificate in LANG: Translating (CT) is not equivalent to a major in a foreign language; rather it represents a theory-based skill developed at the Bachelor's degree level. The CT may complement a major in any field, and is especially recommended for Majors and Minors in Japanese, Global Studies, or International Business. All courses for the CT involve, but are not limited to, translating into English from the source text. A CT in Japanese-English may be earned by completing 12 credit hours.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

### Certificate Requirements

**Introduction (3 credit hours)**
TRAN 3601 - Introduction to Translation and Interpreting Studies (3)

**Practicum in Translating (6 credit hours)**
*Select two of the following courses:*
TRAN 4422 - Practicum in Translating I - Japanese (3)
TRAN 4423 - Practicum in Translating II - Japanese (3)
TRAN 4424 - Practicum in Translating III - Japanese (3)

**4000-level Elective (3 credit hours)**
*Select one of the following courses:*
JAPN 4040 - Advanced Topics in Japanese Media and Culture (3)
JAPN 4050 - Topics in Japanese (1 to 3)
JAPN 4206 - Advanced Spoken Business Japanese (3)
JAPN 4207 - Business Japanese Writing (3)
JAPN 4410 - Professional Internship in Japanese (1 to 6)
TRAN 4422 - Practicum in Translating I - Japanese (3)
TRAN 4423 - Practicum in Translating II - Japanese (3)
TRAN 4424 - Practicum in Translating III - Japanese (3)

### Certificate Total = 12 Credit Hours

### Progression Requirements

All courses must be completed with a grade of B or above.

# Russian

## Undergraduate Certificate in LANG: Translating Russian-English

An Undergraduate Certificate in LANG: Translating (CT) is not equivalent to a major in a foreign language; rather it represents a theory-based skill developed at the Bachelor's degree level. The CT may complement a major in any field, and is especially recommended for Majors and Minors in Global Studies or International Business. All courses for the CT involve, but are not limited to, translating into English from the source text. A CT in Russian-English may be earned by completing 12 credit hours.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

See University Admission Requirements

### Certificate Requirements

TRAN 3601 - Introduction to Translation and Interpreting Studies (3)
TRAN 4432 - Practicum in Translating I - Russian (3)
TRAN 4433 - Practicum in Translating II - Russian (3)
TRAN 4434 - Practicum in Translating III - Russian (3)

### Certificate Total = 12 Credit Hours

### Progression Requirements

All courses must be completed with a grade of B or above.

# Spanish

## Bachelor of Arts in Spanish

The B.A. in Spanish consists of 30 credit hours of language and content courses starting at the 2000-level, plus a one-credit hour Senior Seminar. Students with a Major in Spanish are strongly encouraged to take courses in another language at least through the Intermediate level.

### Admission Requirements

**Freshmen and Transfers**

- See University Admission Requirements
- *Minimum GPA:* 2.0
- Students should consult the Guidance on Language Placement and Exemption on the department's web page for more specific guidelines regarding placement.
- *Transferable Credit Hours:* 24

### Degree Requirements

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Major Courses (30 credit hours)**

**Core Courses (12 credit hours)**

SPAN 2201 - Intermediate Spanish I (3) or equivalent*
SPAN 2202 - Intermediate Spanish II (3) or equivalent*
SPAN 3201 - Advanced Grammar and Composition (3)
SPAN 3202 - Advanced Conversation and Composition (3)
or SPAN 3203 - Spanish for Heritage Speakers (3)

**This course may be waived for highly proficient speakers.*

**Elective Courses (18 credit hours)**

***3000-Level Elective Courses (6 credit hours)***

*Select two 3000-level electives. Choose no more than one course per group below:*

***Topics***

SPAN 3050 - Topics in Spanish (1 to 3)*
** Note: This course must be taken for 3 credit hours. This course may be used to award credit for a course taken at a third-year level in Spanish in a Spanish-speaking country.*

***Literature and Translation***

SPAN 3208 - Introduction to Literary Analysis (3)
TRAN 3601 - Introduction to Translation and Interpreting Studies (3)

***Civilization and Culture***

SPAN 3209 - Spanish Civilization and Culture (3)
SPAN 3210 - Spanish American Civilization and Culture (3)

***Applied Language***

SPAN 3220 - Spanish for Business and International Trade (3)
SPAN 3221 - Spanish for Criminal Justice (3)
SPAN 3222 - Spanish for Medical and Healthcare (3)

***4000-Level Elective Courses (9 credit hours)***

*Select three of the following courses offered in Spanish:*

SPAN 4050 - Selected Topics in Spanish (1 to 3)
SPAN 4120 - Advanced Business Spanish I (3)
SPAN 4121 - Advanced Business Spanish II (3)
SPAN 4201 - Nineteenth-Century Spanish Literature (3)
SPAN 4202 - Twentieth Century Spanish Literature (3)
SPAN 4205 - Novel of the Golden Age (3)
SPAN 4206 - Theater of the Golden Age (3)
SPAN 4208 - Survey of Spanish Peninsular Literature (3)
SPAN 4209 - Survey of Spanish American Literature (3)
SPAN 4210 - Studies in Spanish American Poetry (3)

SPAN 4211 - Studies in Spanish American Prose Fiction (3)
SPAN 4212 - Studies in Spanish American Theater (3)
SPAN 4213 - Cervantes (3)
SPAN 4214 - Studies in Hispanic Children's Literature (3)
SPAN 4215 - Studies in Regional Literature of the Americas (3)
SPAN 4216 - Social, Political, Cultural, Economic Issues in Hispanic Literature (3)
SPAN 4217 - Topics in Hispanic Culture and Civilization (3)
SPAN 4231 - Spanish Phonetics (3)
SPAN 4232 - Spanish Linguistics (3)
SPAN 4233 - History of the Spanish Language (3)
TRAN 4442 - Practicum in Translating I - Spanish (3)
TRAN 4443 - Practicum in Translating II - Spanish (3)

***Additional Elective Course (3 credit hours)***
*Select one of the following:*
LANG 4700 - Honors Project (3)
SPAN 1502 - Global Arts/Humanities: Cultures of the Hispanic World (3)
SPAN 1512 - Local Arts/Humanities: US Hispanic, Latina/o/x Topics (3)
SPAN 3xxx - 4xxx Elective Course (3)
TRAN 3601 - Introduction to Translation and Interpreting Studies (3)
TRAN 4444 - Practicum in Translating III - Spanish (3)

**Senior Seminar (1 credit hour)**
LANG 4690 - Senior Seminar (1)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements
A GPA of 2.0 is required. Introductory language courses may not be taken on a *Pass/No Credit Basis* if they are being used to fulfill a college or departmental foreign language requirement. Students with a Foreign Language major or minor may not take required courses in the department on a *Pass/No Credit Basis*.

Only courses in which a student has earned a grade of C or above may count toward the Spanish major.

## Teacher Licensure
The Department of Languages, Cultures, and Translation, in collaboration with the Department of Middle, Secondary, and K-12 Education, offers a program to prepare students for K-12 teacher licensure in North Carolina. Students seeking licensure to teach a foreign language must fulfill the General Education requirements, the foreign language major, two foreign language teaching methods courses, and satisfy all other requirements specified by the College of Education. Students planning to specialize in foreign language education should apply through the Coordinator for Foreign Language Education during the first semester of the Sophomore year to obtain appropriate advising. Licensure applications are the responsibility of the student and the Office of Teacher Education Advising and Licensure (TEAL) in the College of Education.

# Minor in Spanish
A Minor in Spanish consists of 21 credit hours of language and content courses starting at the 2000 level.

## Admission Requirements
**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

## Minor Requirements (21 credit hours)
**Required Courses (12 credit hours)**
SPAN 2201 - Intermediate Spanish I (3)*
SPAN 2202 - Intermediate Spanish II (3)*
SPAN 3201 - Advanced Spanish Grammar and Composition I (3)
SPAN 3202 - Advanced Spanish Conversation and Composition (3)
SPAN 3203 - Spanish for Heritage Speakers (3)

* *This course may be waived for highly proficient speakers.*

**Elective Courses (9 credit hours)**
***3000-Level Elective Courses (6 credit hours)***
*Select two 3000-level electives. Choose no more than one course per group below:*

***Topics***
SPAN 3050 - Topics in Spanish (1 to 3)*
** Note: This course must be taken for 3 credit hours. This course may be used to award credit for a course taken at a third-year level in Spanish in a Spanish-speaking country.*

***Literature and Translation***
SPAN 3208 - Introduction to Literary Analysis (3)
TRAN 3601 - Introduction to Translation and Interpreting Studies (3)

***Civilization and Culture***
SPAN 3209 - Spanish Civilization and Culture (3)
SPAN 3210 - Spanish American Civilization and Culture (3)

***Applied Language***
SPAN 3220 - Spanish for Business and International Trade (3)
SPAN 3221 - Spanish for Criminal Justice (3)
SPAN 3222 - Spanish for Medical and Healthcare (3)

***4000-Level Elective Course (3 credit hours)***
*Select one of the following courses:*
SPAN 4050 - Selected Topics in Spanish (1 to 3)
SPAN 4120 - Advanced Business Spanish I (3)
SPAN 4121 - Advanced Business Spanish II (3)
SPAN 4201 - Nineteenth Century Spanish Literature (3)
SPAN 4202 - Twentieth Century Spanish Literature (3)
SPAN 4205 - Novel of the Golden Age (3)
SPAN 4206 - Theater of the Golden Age (3)
SPAN 4208 - Survey of Spanish Peninsular Literature (3)
SPAN 4209 - Survey of Spanish American Literature (3)
SPAN 4210 - Studies in Spanish American Poetry (3)

SPAN 4211 - Studies in Spanish American Prose Fiction (3)
SPAN 4212 - Studies in Spanish American Theater (3)
SPAN 4213 - Cervantes (3)
SPAN 4214 - Studies in Hispanic Children's Literature (3)
SPAN 4215 - Studies in Regional Literature of the Americas (3)
SPAN 4216 - Social, Political, Cultural, Economic Issues in Hispanic Literature (3)
SPAN 4217 - Topics in Hispanic Culture and Civilization (3)
SPAN 4231 - Spanish Phonetics (3)
SPAN 4232 - Spanish Linguistics (3)
SPAN 4233 - History of the Spanish Language (3)
TRAN 4442 - Practicum in Translating I - Spanish (3)
TRAN 4443 - Practicum in Translating II - Spanish (3)

### Minor Total = 21 Credit Hours

### Progression Requirements
A grade of C or above is required for all courses in the minor.

## Undergraduate Certificate in LANG: Business Spanish
The Certificate in Business Languages (CBL) provides classroom, overseas (optional), and practical training in Spanish for international business, which may also be recognized by international examinations. The Undergraduate Certificate in LANG: Business Spanish (CBLS) requires 12 credit hours. Majors in any field are welcome.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

### Certificate Requirements
**Required Courses (9 credit hours)**
SPAN 3220 - Spanish for Business and International Trade (3)
SPAN 4120 - Advanced Business Spanish I (3)
SPAN 4121 - Advanced Business Spanish II (3)

**Elective Course (3 credit hours)**
*Select one of the following:*
SPAN 3xxx - Spanish Elective (3)
SPAN 4xxx - Spanish Elective (3)
TRAN 4402S - Practicum in Translating I - Spanish (3)
TRAN 4403S - Practicum in Translating II - Spanish (3)
TRAN 4404S - Practicum in Translating III - Spanish (3)

### Certificate Total = 12 Credit Hours

### Progression Requirements
In order to be awarded the CBL, each course that counts for the certificate must be completed with a grade of B or above.

## Undergraduate Certificate in LANG: Hispanic Literary Studies
The Undergraduate Certificate in LANG: Hispanic Literary Studies emphasizes the study of literatures written in Spanish from Latin America and Spain within the broader context of the language and culture studied in the major. Literature courses in Spanish enrich students' perspectives by engaging them in the study of history, culture, and philosophy, enabling them to understand other people as well as encouraging introspection and a better understanding of the self and their place in the world. The certificate adds an additional credential to any major concentration and may be added to the existing Certificates in LANG: Business Spanish and Translating Spanish-English.

### Admission Requirements
- See University Admission Requirements
- To be admitted into this certificate program, students must meet the general University requirements for admission into undergraduate certificate programs.
- In addition, the program expects students to have taken SPAN 3201 and SPAN 3202, or SPAN 3203, or show that they have advanced level proficiency in reading Spanish.

### Certificate Requirements
**Required Courses (9 credit hours)**
SPAN 3208 - Introduction to Literary Analysis (3)
SPAN 4208 - Survey of Spanish Peninsular Literature (3)
SPAN 4209 - Survey of Spanish American Literature (3)

**Elective Courses (6 credit hours)**
*Select two of the following:*
SPAN 4201 - Nineteenth Century Spanish Literature (3)
SPAN 4202 - Twentieth Century Spanish Literature (3)
SPAN 4205 - Novel of the Golden Age (3)
SPAN 4206 - Theater of the Golden Age (3)
SPAN 4210 - Studies in Spanish American Poetry (3)
SPAN 4211 - Studies in Spanish American Prose Fiction (3)
SPAN 4212 - Studies in Spanish American Theater (3)
SPAN 4213 - Cervantes (3)
SPAN 4214 - Studies in Hispanic Children's Literature (3)
SPAN 4215 - Studies in Regional Literature of the Americas (3)
SPAN 4216 - Social, Political, Cultural, Economic Issues in Hispanic Literature (3)
SPAN 4050 - Selected Topics in Spanish (3) *(only if approved by advisor)*

### Certificate Total = 15 Credit Hours

## Undergraduate Certificate in LANG: Translating Spanish-English
An Undergraduate Certificate in LANG: Translating (CT) is not equivalent to a major in a foreign language; rather it represents a theory-based skill developed at the Bachelor's degree level. The CT may complement a major in any field, and is especially recommended for Majors and Minors in Spanish, Global Studies, or International Business. All courses for the CT involve, but are not limited to, translating into English from the source

text. A CT in Spanish-English may be earned by completing 12 credit hours.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

See University Admission Requirements

## Certificate Requirements

**Core Courses (3 Credits)**

TRAN 3601 - Introduction to Translation and Interpreting Studies (3)

**Required Practicum Courses (6 Credits)**

*Choose two of the following:*

TRAN 4442 - Practicum in Translating I - Spanish (3)
TRAN 4443 - Practicum in Translating II - Spanish (3)
TRAN 4444 - Practicum in Translating III - Spanish (3)

**Required Elective Course (3 Credits)**

*Choose one of the following:*

SPAN 4050 - Selected Topics in Spanish (1 to 3)
SPAN 4120 - Advanced Business Spanish I (3)
SPAN 4121 - Advanced Business Spanish II (3)
SPAN 4201 - Nineteenth Century Spanish Literature (3)
SPAN 4202 - Twentieth Century Spanish Literature (3)
SPAN 4205 - Novel of the Golden Age (3)
SPAN 4206 - Theater of the Golden Age (3)
SPAN 4208 - Survey of Spanish Peninsular Literature (3)
SPAN 4209 - Survey of Spanish American Literature (3)
SPAN 4210 - Studies in Spanish American Poetry (3)
SPAN 4211 - Studies in Spanish American Prose Fiction (3)
SPAN 4212 - Studies in Spanish American Theater (3)
SPAN 4213 - Cervantes (3)
SPAN 4214 - Studies in Hispanic Children's Literature (3)
SPAN 4215 - Studies in Regional Literature of the Americas (3)
SPAN 4216 - Social, Political, Cultural, Economic Issues in Hispanic Literature (3)
SPAN 4217 - Topics in Hispanic Culture and Civilization (3)
SPAN 4231 - Spanish Phonetics (3)
SPAN 4232 - Spanish Linguistics (3)
SPAN 4233 - History of the Spanish Language (3)
TRAN 4442 - Practicum in Translating I - Spanish (3)
TRAN 4443 - Practicum in Translating II - Spanish (3)
TRAN 4444 - Practicum in Translating III - Spanish (3)

## Certificate Total = 12 Credit Hours

## Progression Requirements

All courses must be completed with a grade of B or above.

# Early Entry: Master of Arts in Spanish

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Minimum 3.0 GPA in the Department of Languages, Cultures, and Translation
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

*Note: Standardized test scores (e.g., GRE, MAT) are not required.*

## Progression Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 2.75 overall undergraduate GPA and minimum 3.0 GPA for their Junior/Senior years
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree.

## Special Policies or Requirements

Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

| Spanish, B.A. | |
|---|---|
| **Graduate Course** | **Undergraduate Course** |
| SPAN 5050<br>*(Several sections offered. Varies per topic.)* | SPAN 4050<br>SPAN 4205<br>SPAN 4206<br>SPAN 4231<br>SPAN 4232<br>SPAN 4233 |
| TRAN 5050 | TRAN 4442<br>TRAN 4443 |
| LANG 5050 | LANG 4700 |
| PAN 6001 | SPAN 4050<br>SPAN 4231<br>SPAN 4232<br>SPAN 4233 |
| SPAN 6007 | SPAN 4050<br>SPAN 4209<br>SPAN 4212<br>SPAN 4210 |
| SPAN 6005 | SPAN 4208<br>SPAN 4050 |
| TRAN 6000 | TRAN 3601<br>SPAN 4050 |
| TRAN 6601 | TRAN 3601 |
| TRAN 6602 | TRAN 3601<br>LANG 4050 |

| Spanish, B.A. (cont.) | |
|---|---|
| **Graduate Course** | **Undergraduate Course** |
| TRAN 6603 | TRAN 3601<br>LANG 4050 |
| TRAN 6604 | TRAN 3601<br>LANG 4050 |
| TRAN 6480 | SPAN 4410 |
| TRAN 6472 | TRAN 4442<br>SPAN 4050 (APPL) |
| TRAN 6474 | TRAN 4443<br>SPAN 4050 (APPL) |
| TRAN 6476 | TRAN 4442<br>TRAN 4443<br>SPAN 4050 |

| Spanish, B.A., Applied Languages | |
|---|---|
| **Graduate Course** | **Undergraduate Course** |
| SPAN 5050 (APPL)<br>*(Several sections offered. Varies per topic.)* | SPAN 4050 (APPL)<br>SPAN 4231<br>SPAN 4232<br>SPAN 4233 |
| TRAN 5050 | TRAN 4442<br>TRAN 4443 |
| TRAN 6000 | TRAN 3601 |
| TRAN 6601 | TRAN 3601 |
| TRAN 6602 | TRAN 3601 |
| TRAN 6603 | TRAN 3601 |
| TRAN 6604 | TRAN 3601 |
| TRAN 6480 | SPAN 4410 |
| TRAN 6472 | TRAN 4442<br>SPAN 4050 (APPL) |
| TRAN 6474 | TRAN 4443<br>SPAN 4050 (APPL) |
| TRAN 6476 | TRAN 4442<br>TRAN 4443<br>SPAN 4050 (APPL) |
| INTE 6050 | TRAN 3601<br>SPAN 4050 (APPL) |
| INTE 6601 | TRAN 3601 |
| INTE 6172 | TRAN 4442<br>SPAN 4050 |

| Spanish, B.A., Applied Languages (cont.) | |
|---|---|
| **Graduate Course** | **Undergraduate Course** |
| INTE 6174 | TRAN 4443<br>SPAN 4050 |
| INTE 6176 | TRAN 4443<br>SPAN 4050 |
| SPAN 6001 (Linguistics - APPL) | SPAN 4050<br>TRAN 4442 |
| SPAN 6007 (Span Am Lit - LITR) | SPAN 4050<br>SPAN 4209<br>SPAN 4210<br>SPAN 4211<br>SPAN 4212 |
| SPAN 6005 (Lit, Cult - LITR) | SPAN 4208<br>SPAN 4050 |

| Spanish, B.A., Literature and Culture | |
|---|---|
| **Graduate Course** | **Undergraduate Course** |
| SPAN 5011 | SPAN 4211 |
| SPAN 5050<br>*(Several sections offered. Varies per topic.)* | SPAN 4050<br>SPAN 4205<br>SPAN 4206<br>SPAN 4231<br>SPAN 4232<br>SPAN 4233 |
| SPAN 5210 | SPAN 4210 |
| SPAN 5212 | SPAN 4212 |
| SPAN 5213 | SPAN 4213 |
| SPAN 5215 | SPAN 4215 |
| SPAN 5218 | SPAN 4218 |
| SPAN 5220 | SPAN 4220 |
| SPAN 6001 (Linguistics) | SPAN 4050 (APPL)<br>TRAN 4442<br>SPAN 4231<br>SPAN 4232<br>SPAN 4233 |
| SPAN 6007 (Span AM Lit) | SPAN 4050 (LITR)<br>SPAN 4209<br>SPAN 4210<br>SPAN 4211<br>SPAN 4212 |
| SPAN 6005 (Lit, Cult.) | SPAN 4208<br>SPAN 4050 (LITR) |

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# Early Entry: Graduate Certificate in LANG: Translation and Interpreting Studies, Spanish-English

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

## Progression Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree.

## Special Policies or Requirements

Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees). LACS, SPAN, TRAN, and INTE 5000- and 6000-level courses can be double-counted for the specific concentration of the B.A. in Spanish and the Graduate Certificate program/M.A. program for students enrolled in undergraduate and graduate programs simultaneously.

The following table outlines the courses that may be double-counted.

| Translation and Interpreting Spanish-English | |
|---|---|
| **Graduate Course** | **Undergraduate Course** |
| INTE 6601<br>TRAN 6000<br>TRAN 6601<br>TRAN 6602<br>TRAN 6603<br>TRAN 6604 | TRAN 3601 |
| TRAN 5050<br>TRAN 6472<br>TRAN 6474<br>TRAN 6476 | TRAN 4443 |
| INTE 6050 | TRAN 3601<br>SPAN 4050 (APPL) |
| INTE 6172 | TRAN 4442<br>SPAN 4050 (APPL) |
| INTE 6174 | TRAN 4443<br>SPAN 4050 (APPL) |
| INTE 6176 | TRAN 4443<br>SPAN 4050 (APPL) |

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# Other Languages and Cultures

## Minor in Arabic Studies

The Minor in Arabic Studies consists of 18 credit hours.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Students must be in good academic standing with a minimum GPA of 2.0.

### Minor Requirements

The Minor in Arabic Studies consists of a minimum of 18 credit Hours.

**Required Courses (12 credit hours)**
ARBC 1201 - Elementary Arabic I (3)
ARBC 1202 - Elementary Arabic II (3)
ARBC 2201 - Intermediate Arabic I (3)
ARBC 2202 - Intermediate Arabic II (3)

**Elective Courses (6 credit hours)**
*Select two of the following:*

ARBC 1502 - Global Arts/Humanities: Modern Arab Culture
ARBC 1512 - Local Arts/Humanities: Islamic Culture in the United States (3)
ARBC 3050 - Topics in Arabic Language and Culture (3)
ARBC 3051 - Topics in Arabic Language and Culture (1 to 3)
ARBC 3201 - Advanced Arabic I (3)
ARBC 3202 - Advanced Arabic II (3)
ARBC 3203 - Advanced Arabic III (3)
ARBC 3211 - Understanding Millennials of the Middle East Through Literature, Culture, and Mass Media (3)
ARBC 3225 - Short-Term Abroad (3)
HIST 2215 - A History of Muslim Societies (3)
HIST 2216 - The Modern Middle East (3)
RELS 2000 - Topics in Religious Studies (1 to 3) *(Islam in America)*
RELS 2131 - Islam (3)
RELS 3000 - Special Topics in Religious Studies (3) *(Islam: History, Traditions, and Politics)*

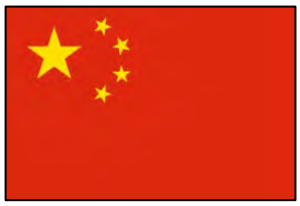
### Minor Total = 18 Credit Hours

### Progression Requirements

A grade of C or above must be received in all courses applied toward the minor.

## Minor in Chinese

The Minor in Chinese consists of a minimum of 21 credit hours (7 courses) above the CHNS 1202 level (i.e., above beginning language instruction).



### Admission Requirements

**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

### Minor Requirements

**Required Courses (15 credit hours)**
CHNS 2201 - Intermediate Chinese I (3)
CHNS 2202 - Intermediate Chinese II (3)
CHNS 3201 - Chinese Grammar and Conversation (3)
CHNS 3202 - Chinese Grammar and Conversation (3)
CHNS 3203 - Advanced Chinese Grammar and Conversation (3)

**Elective Courses (6 credit hours)**
*Select two of the following:*
CHNS 1502 - Global Arts/Humanities: Chinese Culture in the World (3)
CHNS 3050 - Topics in Chinese (3)
CHNS 3051 - Topics in Chinese (1 to 3)
POLS 3148 - Chinese Politics (3)
POLS 3165 - East Asia in World Affairs (3)
CHNS 3225 - Short-Term Abroad (3)
RELS 3238 - Asians in the Americas (3)
CHNS 3400 - Chinese Teaching Practicum (3)
CHNS 4050 - Topics in Chinese (3)

### Minor Total = 21 Credit Hours

## Minor in Italian Studies

A Minor in Italian Studies consists of 18 credit hours (six 3-credit hour courses).

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

### Minor Requirements

**Required Courses (12 credit hours)**
ITLN 1201 - Elementary Italian I (3)
ITLN 1202 - Elementary Italian II (3)
ITLN 2201 - Intermediate Italian I (3)
ITLN 2202 - Intermediate Italian II (3)

**Elective Courses (6 credit hours)**
*Select two of the following:*
ITLN 1502 - Global Arts/Humanities: Italian Culture in the World (3)
ITLN 1512 - Local Arts/Humanities: Italian Culture in the U.S. (3)
ITLN 3051 - Topics in Italian (1 to 3)
ITLN 3201 - Italian Grammar and Conversation (3)

ITLN 3202 - Italian Grammar and Composition (3)
ITLN 3225 - Short-Term Abroad (3)
ITLN 3252 - Comedy in Italian Film (3)
ITLN 3253 - Italian Horror Film (3)
ITLN 3254 - Pinocchio in Italian Film (3)
ITLN 3650 - History of Italian Film (3)
ITLN 3651 - Italian Mafia through Film (3)
ITLN 3660 - Italian Culture and Business (3)
ITLN 3661 - Migrations Across the Mediterranean Sea through Film (3)

**Minor Total = 18 Credit Hours**

# Early Entry: Graduate Certificate in LANG: Business Language

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

## Progression Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree.

## Special Policies or Requirements

Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

| Business Languages, Spanish | |
|---|---|
| **Graduate Course** | **Undergraduate Course** |
| SPAN 5120 | SPAN 4120 |
| SPAN 5121 | SPAN 4121 |

| Business Languages, German | |
|---|---|
| **Graduate Course** | **Undergraduate Course** |
| GERM 5120 | GERM 4661 |
| GERM 5121 | GERM 4671 |

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# Early Entry: Graduate Certificate in LANG: Translating

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

*Note: Standardized test scores (e.g., GRE, MAT) are not required.*

## Progression Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree.

## Special Policies or Requirements

Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees). LANG and TRAN 5000- and 6000-level courses can be double-counted for the Major in French, Major in German, Major in Japanese, and the Graduate Certificate program for students enrolled in undergraduate and graduate programs simultaneously.

The following table outlines the courses that may be double-counted:

| Translating, Spanish-English | |
|---|---|
| **Graduate Course** | **Undergraduate Course** |
| TRAN 6000<br>TRAN 6601<br>TRAN 6602<br>TRAN 6603<br>TRAN 6604 | TRAN 3601 |
| TRAN 5050<br>TRAN 6472 | TRAN 4442 |
| TRAN 5050<br>TRAN 6474<br>TRAN 6476 | TRAN 4443 |

| Translating, French-English | |
|---|---|
| **Graduate Course** | **Undergraduate Course** |
| TRAN 5402<br>TRAN 5404 | TRAN 4402 |
| TRAN 5403 | TRAN 4403 |
| TRAN 6000<br>TRAN 6601<br>TRAN 6602<br>TRAN 6603<br>TRAN 6604 | TRAN 3601 |

| Translating, German-English | |
|---|---|
| **Graduate Course** | **Undergraduate Course** |
| TRAN 5412<br>TRAN 5413<br>TRAN 5414<br>TRAN 5050<br>LANG 5050 | TRAN 4412<br>TRAN 4413 |
| TRAN 6000<br>TRAN 6601<br>TRAN 6602<br>TRAN 6603<br>TRAN 6604 | TRAN 3601 |

| Translating, Japanese-English | |
|---|---|
| **Graduate Course** | **Undergraduate Course** |
| TRAN 5422<br>TRAN 5423<br>TRAN 5424<br>TRAN 5050 | TRAN 4422<br>TRAN 4423 |
| TRAN 6000<br>TRAN 6601<br>TRAN 6602<br>TRAN 6603<br>TRAN 6604 | TRAN 3601 |

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# Honors Program

## Honors Program in Languages, Cultures and Translation Studies

The Honors Program in the Department of Languages, Cultures, and Translation provides a unique opportunity to majors and minors in any of its language and culture disciplines to conduct field research through study abroad or applied internships. After taking a course that prepares them to do and write up research, students will have the opportunity to share their findings either through an honors project or thesis. This is the highest distinction that the department bestows on its majors and minors; honors in Languages, Cultures, and Translation is an excellent preparation for graduate school, and it is a great addition to student resumes.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

See University Admission Requirements

To be admitted to the Languages, Cultures and Translation honors program, students must have:

- 3.0 overall GPA
- Completed the 2201 course level in their language of choice with a grade of B or above
- Permission of the Honors Director

### Progression Requirements

Honors candidates must participate in at least 3 credit hours of either study abroad or a department-approved internship or experiential learning opportunity.

In order to graduate with departmental honors, students must:

- Complete the Application to Candidacy through the Honors College
- Complete LANG 3700 with a grade of A or a grade of B with approval of the Honors Director
- Complete a study abroad or program-approved internship and/or experiential learning opportunity of at least 3 credit hours
- Complete LANG 4700 with a grade of A to receive honors *(Students earning a lower grade can still earn elective credit)*
- Maintain an overall GPA of 3.5 in the Languages, Cultures and Translation major or minor

# Department of Philosophy

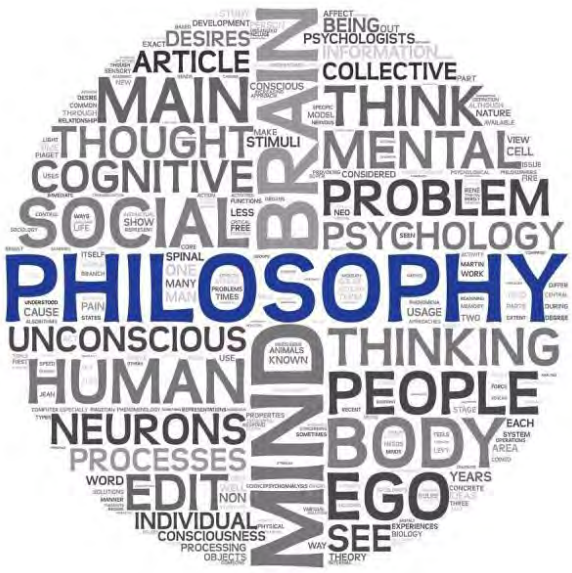
philosophy.charlotte.edu

## Undergraduate Programs

- **B.A. in Philosophy**
  - **Honors Program**
- **Minor in Philosophy**
- **Early Entry: M.A. in Ethics and Applied Philosophy**

Philosophy is reasoned inquiry about the nature of persons, reality, thought, knowledge, values, and beauty. It seeks to establish standards of evidence, to provide rational methods of resolving conflicts, and to create techniques for evaluating fundamental ideas, principles and arguments in all areas of human existence and knowledge. Equally concerned with human endeavor in both the arts and the sciences, philosophy continues to reside at the core of a liberal education.

Students major or minor in philosophy because of their desire to pursue fundamental ideas, principles, and arguments in general or in relation to other disciplines. Philosophy helps students develop strong skills in writing, critical thinking, reading, and understanding complex texts. These skills are indispensable for any committed and concerned citizen. The study of philosophy also provides a deeper understanding and enjoyment of the challenges and issues people face throughout their personal and professional lives.




Students may choose to major solely in philosophy, or to pursue it as a second major or as a minor. As several members of the department teach regularly within interdisciplinary studies, many philosophy courses introduce a wide range of ethical, political, scientific, technological, literary, and aesthetic ideas into discussions of philosophical issues. Courses in critical thinking and logic are a benefit to students in all their coursework and can be especially useful to students who plan to enter graduate school, law school, or other professional school. Given the Department of Philosophy's association with the Center for Professional and Applied Ethics, many philosophy courses give students a deeper understanding of contemporary issues in business, law, medicine, public policy, information technology, and environmental studies.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

## Bachelor of Arts in Philosophy

### Admission Requirements

**Freshmen and Transfers**

- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

**Currently Enrolled Students**

- *Declaration of Major:* Change of Major form accepted year-found; orientation/advising session required in order to declare

### Degree Requirements

A Major in Philosophy leading to a B.A. degree consists of a minimum of 33 credit hours in philosophy, at least 18 of which are earned at UNC Charlotte with a grade of C or above, with no more than 12 credit hours below the 3000-level counting toward the major.

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some

general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Foreign Language Requirement (0-8 credit hours)**
For details on required courses, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirement.

**Foundation Courses (6 credit hours)**
PHIL 1502 - Global Arts/Humanities: Global and Comparative Philosophy (3)
or PHIL 1512 - Local Arts/Humanities: Philosophy and Community (3)
PHIL 2100 - Critical Thinking in Philosophy (3)

**Major Courses (24 credit hours)**
***Required Major Courses (12 credit hours)***
*Select one course from each of the following four categories:*

***History/Genealogy Courses***
PHIL 3009 - Major Figure in Philosophy (3)
PHIL 3019 - Topics in History/Genealogy (3)
PHIL 3201 - Ancient Philosophy (3)
PHIL 3202 - Modern Philosophy (3)
PHIL 3203 – Nineteenth-Century Philosophy (3)
PHIL 3204 – Twentieth-Century Philosophy (3)
PHIL 3211 - Latin American Philosophy (3)
PHIL 3212 - American Philosophy (3)
PHIL 3213 - Existentialism (3)
PHIL 4009 – Major Figure in Philosophy (3)
PHIL 4019 - Advanced Topics in History/Genealogy (3)

***Ethics/Aesthetics Courses***
PHIL 3039 - Topics in Ethics/Aesthetics (3)
PHIL 3221 - Ethical Theory (3)
PHIL 3222 – Environmental Ethics (3)
PHIL 3223 – Foundations of Ethics (3)
PHIL 3224 – Data Ethics (3)
PHIL 3231 – Aesthetics (3)
PHIL 4039 - Advanced Topics in Ethics/Aesthetics (3)
PHIL 4230 – After Auschwitz (3)

***Knowledge/Language Courses***
PHIL 3059 - Topics in Knowledge/Language (3)
PHIL 3241 - Knowledge and Reality (3)
PHIL 3242 – Philosophy of Mind (3)
PHIL 3243- Philosophy of Religion (3)
PHIL 3251 - Advanced Logic (3)
PHIL 3252 - Philosophy of Language (3)
PHIL 3253 – Science, Knowledge, and Values (3)
PHIL 3254 – History and Philosophy of Biology (3)
PHIL 3255 - Philosophy of Artificial Intelligence (3)
PHIL 4059 - Advanced Topics in Knowledge/Language (3)

***Identity/Society Courses***
PHIL 3079 - Topics in Identity/Society (3)
PHIL 3261 - Feminist Philosophy (3)
PHIL 3262 - Philosophy and Race (3)
PHIL 3263 - Philosophy and Disability (3)
PHIL 3271 - Social and Political Philosophy (3)
PHIL 3272 - Philosophy of Technology (3)
PHIL 3273 - Philosophy and the Body (3)
PHIL 3274 - Philosophy of Education (3)
PHIL 3275 - Hip Hop as Redescription (3)
PHIL 3279 - Philosophy of Law (3)
PHIL 4079 - Advanced Topics in Identity/Society (3)
PHIL 4170 – Queer Theory (3)
PHIL 4270 – Indigenous Feminisms (3)

***Elective Major Courses (12 credit hours)***
The final 12 credit hours of major courses may be from any combination of the four categories listed above and/or include courses from the following:

PHIL 1502 - Global Arts/Humanities: Global and Comparative Philosophy (3)
PHIL 1512 - Local Arts/Humanities: Philosophy and Community (3)
PHIL 2105 - Deductive Logic (3)
PHIL 2220 – Healthcare Ethics (3)
PHIL 3400 - Internship in Ethics and Philosophy (3)
PHIL 3800 - Independent Study (1 to 3)

*Note: Students with multiple majors may double-count one 3-credit hour, 3000 or 4000 level course from another major as part of the final 12 credit hours in the Major in Philosophy, with approval of the Philosophy Undergraduate Program Director.*

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

**Senior Seminar (3 credit hours)**
PHIL 4600 - Senior Seminar (3)
PHIL 4700 - Honors Senior Seminar (3)

### Degree Total = 120 Credit Hours

### Progression Requirements
A GPA of 2.0 is required for all philosophy courses applied to the major.

## Bachelor of Arts in Philosophy, *Pre-Law Concentration*

The Pre-Law concentration provides students with a thorough education in philosophy while at the same time introducing them to the study of law, focused on both theory and policy. The concentration emphasizes the central role of logical and philosophical argumentation in legal reasoning and in the development of law. Students who complete this concentration will simultaneously earn a minor in Legal Studies.

### Admission Requirements
**Freshmen and Transfers**

- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

**Currently Enrolled Students**
- *Declaration of Major:* Change of Major form accepted year-found; orientation/advising session required in order to declare

## Degree Requirements

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Foreign Language Requirement (0-8 credit hours)**
For details on required courses, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirement.

**Introduction to Philosophy (3 credit hours)**
PHIL 1502 - Global Arts/Humanities: Global and Comparative Philosophy (3)
or PHIL 1512 - Local Arts/Humanities: Philosophy and Community (3)

**Concentration Courses (18 credit hours)**
LEGL 1100 - Introduction to Law and the Legal System (3)

***Reasoning Skills (9 credit hours)***
PHIL 2100 - Critical Thinking in Philosophy (3)
PHIL 2105 - Deductive Logic (3)

*Plus select one of the following:*
LEGL 2103 - Argumentation and Debate (3)
LEGL 3100 - Topics in Legal Skills (3)
LEGL 3363 - Mediation and Conflict Resolution (3)
LEGL 4110 - North Carolina Student Legislature (3)
LEGL 4320 - Evidence (3)

**Philosophy, Law, and Policy (6 credit hours)**
*Select **two** of the following (other LEGL courses will be considered upon request):*
LEGL 3117 - Gender and the Law (3)
LEGL 3175 - Philosophy of Law (3)
LEGL 3810 - Social and Political Philosophy (3)

**Major Courses (9 credit hours)**
*You must take one course each from any three of the following four categories:*

***History/Genealogy Courses***
PHIL 3009 - Major Figure in Philosophy (3)
PHIL 3019 - Topics in History/Genealogy (3)
PHIL 3201 - Ancient Philosophy (3)
PHIL 3202 - Modern Philosophy (3)
PHIL 3203 - Nineteenth-Century Philosophy (3)
PHIL 3204 - Twentieth-Century Philosophy (3)
PHIL 3211 - Latin American Philosophy (3)
PHIL 3212 - American Philosophy (3)
PHIL 3213 - Existentialism (3)
PHIL 4009 - Major Figure in Philosophy (3)
PHIL 4019 - Advanced Topics in History/Genealogy (3)

***Ethics/Aesthetics Courses***
PHIL 3039 - Topics in Ethics/Aesthetics (3)
PHIL 3221 - Ethical Theory (3)
PHIL 3222 - Environmental Ethics (3)
PHIL 3223 - Foundations of Ethics (3)
PHIL 3224 - Data Ethics (3)
PHIL 3231 - Aesthetics (3)
PHIL 4039 - Advanced Topics in Ethics/Aesthetics (3)
PHIL 4230 - After Auschwitz (3)

***Knowledge/Language Courses***
PHIL 3059 - Topics in Knowledge/Language (3)
PHIL 3241 - Knowledge and Reality (3)
PHIL 3242 - Philosophy of Mind (3)
PHIL 3243 - Philosophy of Religion (3)
PHIL 3251 - Advanced Logic (3)
PHIL 3252 - Philosophy of Language (3)
PHIL 3253 - Science, Knowledge, and Values (3)
PHIL 3254 - History and Philosophy of Biology (3)
PHIL 3255 - Philosophy of Artificial Intelligence (3)
PHIL 4059 - Advanced Topics in Knowledge/Language (3)

***Identity/Society Courses***
PHIL 3079 - Topics in Identity/Society (3)
PHIL 3261 - Feminist Philosophy (3)
PHIL 3262 - Philosophy and Race (3)
PHIL 3263 - Philosophy and Disability (3)
PHIL 3271 - Social and Political Philosophy (3)
PHIL 3272 - Philosophy of Technology (3)
PHIL 3273 - Philosophy and the Body (3)
PHIL 3274 - Philosophy of Education (3)
PHIL 3275 - Hip Hop as Redescription (3)
PHIL 4079 - Advanced Topics in Identity/Society (3)
PHIL 4170 - Queer Theory (3)
PHIL 4270 - Indigenous Feminisms (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

**Senior Seminar (3 credit hours)**
PHIL 4600 - Senior Seminar (3)
or PHIL 4700 - Honors Senior Seminar (3)

## Degree Total = 120 Credit Hours

## Progression Requirements

A GPA of 2.0 is required for all philosophy courses applied to the major.

## Honors Program

For details about the Honors Program in Philosophy, visit the program page (https://philosophy.charlotte.edu/undergraduate/philosophy-honors-program/).

# Minor in Philosophy

A Minor in Philosophy consists of 18 credit hours of philosophy courses.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

See University Admission Requirements

## Minor Requirements

**Foundation Courses (6 credit hours)**

PHIL 1502 - Global Arts/Humanities: Global and Comparative Philosophy (3)
or PHIL 1512 - Local Arts/Humanities: Philosophy and Community (3)
PHIL 2100 - Critical Thinking in Philosophy (3)

**Required Courses (6 credit hours)**

*Select one course from two of the following four categories:*

***History/Genealogy Courses***

PHIL 3009 - Major Figure in Philosophy (3)
PHIL 3019 - Topics in History/Genealogy (3)
PHIL 3201 - Ancient Philosophy (3)
PHIL 3202 - Modern Philosophy (3)
PHIL 3203 – Nineteenth-Century Philosophy (3)
PHIL 3204 – Twentieth-Century Philosophy (3)
PHIL 3211 – Latin American Philosophy (3)
PHIL 3212 - American Philosophy (3)
PHIL 3213 - Existentialism (3)
PHIL 4009 – Major Figure in Philosophy (3)
PHIL 4019 - Advanced Topics in History/Genealogy (3)

***Ethics/Aesthetics Courses***

PHIL 3039 - Topics in Ethics/Aesthetics (3)
PHIL 3221 - Ethical Theory (3)
PHIL 3222 – Environmental Ethics (3)
PHIL 3223 – Foundations of Ethics (3)
PHIL 3224 – Data Ethics (3)
PHIL 3231 - Aesthetics (3)
PHIL 4039 - Advanced Topics in Ethics/Aesthetics (3)
PHIL 4230 – After Auschwitz (3)

***Knowledge/Language Courses***

PHIL 3059 - Topics in Knowledge/Language (3)
PHIL 3241 - Knowledge and Reality (3)
PHIL 3242 - Philosophy of Mind (3)
PHIL 3243 - Philosophy of Religion (3)
PHIL 3251 - Advanced Logic (3)
PHIL 3252 - Philosophy of Language (3)
PHIL 3253 – Science, Knowledge, and Values (3)
PHIL 3254 – History and Philosophy of Biology (3)
PHIL 3255 - Philosophy of Artificial Intelligence (3)
PHIL 4059 - Advanced Topics in Knowledge/Language (3)

***Identity/Society Courses***

PHIL 3079 - Topics in Identity/Society (3)
PHIL 3261 - Feminist Philosophy (3)
PHIL 3262 - Philosophy and Race (3)
PHIL 3263 - Philosophy and Disability (3)
PHIL 3271 - Social and Political Philosophy (3)
PHIL 3272 - Philosophy of Technology (3)
PHIL 3273 - Philosophy of the Body (3)
PHIL 3274 - Philosophy of Education (3)
PHIL 3275 - Hip Hop as Redescription (3)
PHIL 3279 - Philosophy of Law (3)
PHIL 4079 - Advanced Topics in Identity/Society (3)
PHIL 4170 – Queer Theory (3)
PHIL 4270 – Indigenous Feminisms (3)

**Elective Courses (6 credit hours)**

The final 6 credit hours of courses may be from any combination of the four categories listed above and/or include courses from the following:

PHIL 1502 - Global Arts/Humanities: Global and Comparative Philosophy (3)
PHIL 1512 - Local Arts/Humanities: Philosophy and Community (3)
PHIL 2105 - Deductive Logic (3)
PHIL 2220 – Healthcare Ethics (3)
PHIL 3400 - Internship in Ethics and Philosophy (3)
PHIL 3800 - Independent Study (1 to 3)

## Minor Total = 18 Credit Hours

## Progression Requirements

At least 12 credit hours from the Minor in Philosophy must be earned at UNC Charlotte with grades of C or above.

# Honors Program in Philosophy

**What is Honors in Philosophy?**

Philosophy majors may pursue Honors in Philosophy either in addition to or instead of University Honors. Honors in Philosophy includes a combination of GPA requirements, coursework, independent study, and a thesis project. Only students whose projects have been approved by both the department honors committee and the Honors College may graduate with honors.

**Why do Honors in Philosophy?**

There are two main benefits: (1) credentials on one's official transcript ("Graduation with Honors"), and (2) the more important benefit of scholarly growth. Honors projects are basically practice for the more intensively researched, extensively written type of work students will need to do in graduate programs in philosophy and other humanities disciplines (such as literature, cultural studies, etc.). They are also excellent opportunities to develop a stellar writing sample for graduate school applications. Moreover, through intensive work with faculty, students will have the opportunity to both receive one-on-one mentorship (which often helps faculty write extra-detailed letters of recommendation).

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- A declared Major in Philosophy
- Minimum GPA of 3.5 in all philosophy courses counting toward the major is preferred, but exceptions will be granted on a case-by-case basis for students with extenuating circumstances
- Minimum GPA of 3.5 for all departmental and Honors College courses submitted towards graduation with honors

### Course Requirements

- PHIL 4700 - Honors Senior Seminar (3)
- Students must also take one 3-hour HONR 37xx seminar on a topic of their choice (ideally in philosophy or in a topic related to their research paper).

### Progression Requirements

- Students must compose a research paper committee consisting of three UNC Charlotte faculty. At least two of the members must be in the Department of Philosophy. One is the PHIL 4700 - Honors Senior Seminar instructor; the other is the Subject Matter Expert with whom the student develops their Application to Candidacy form and research paper proposal. The third may be from any relevant department or program (e.g., WGST if writing on gender, CHHS if writing on bioethics, etc.).
- One member of the committee must be affiliated with the Honors College if and only if a student is also submitting the thesis to University Honors.
- Students should select one member of the committee as the Subject Matter Expert whose research expertise is related to the student's research paper topic. The Subject Matter Expert must be a member of the Department of Philosophy.
- Complete the Application to Candidacy process for graduating with honors, as directed by the Honors College. There are two stages to this:
    - Part one must completed no later than the semester before the student registers for PHIL 4700 – Honors Senior Seminar.
    - Part two must completed when the student successfully completes PHIL 4700.
- Oral presentation of research to committee
- Submission of the written research paper to the committee at the end of PHIL 4700
- To be awarded Honors in Philosophy, candidates must write an research paper of A quality (and thus earn a grade of A for PHIL 4700) as judged by the committee.
- The honors notation will appear on a student's official transcript.

## Early Entry: Master of Arts in Ethics and Applied Philosophy

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director in Philosophy and approval by the Graduate School
- At least 5 courses in philosophy completed or in progress at the time of application, 3 of which must be at the 3xxx/4xxx level

### Progression Requirements

- Completion of Early Entry Program Form, and approval by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Students must maintain a minimum 3.0 overall undergraduate GPA,
- Students must complete the BA degree before (a) enrolling in more than 15 hours of graduate work and (b) registering for more than 2 graduate courses per semester.

### Special Policies or Requirements

Up to 9 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 9 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# Department of Political Science and Public Administration

politicalscience.charlotte.edu

## Undergraduate Programs

- B.A. in Political Science
  - Security and Intelligence Systems
  - Comprehensive Social Studies Teacher Licensure
  - Honors Program
- Minor in Political Science
- Minor in Public Administration
- Minor in Security and Intelligence Studies
- Early Entry: Master of Public Administration (MPA)

Political science is the study of politics: government, law, political behavior, public policy, and political philosophy. The political science curriculum is designed primarily to afford broad and modern training in the study of political institutions and political behavior for students in the liberal arts and majors planning graduate work. It also affords career-oriented or pre-professional training for teaching, law, business, public relations, or work in the mass media, domestic and foreign government service, the military, teaching, and a variety of active roles in politics.

The B.A. in Political Science offers a concentration and minor in Security and Intelligence Studies. The B.A. in Political Science with Concentration in Security and Intelligence Studies encourages students to gain a broad, well-rounded understanding of the ethics, processes, priorities, and outcomes of national security policy, with a focus on the role of information and intelligence in the policymaking process. The concentration is designed to prepare students to work in a wide range of occupations in the government, private, non-profit sectors that deal with national security broadly understood, and for the obligations of state, national, and global citizenship in the 21st century.

The Minor in Security and Intelligence Studies encourages students to gain a broad, well-rounded understanding of the ethics, processes, priorities, and outcomes of national security policy, with a focus on the role of information and intelligence in the policymaking process. The minor's interdisciplinary approach enables students to select courses across a wide range of disciplines. It is designed to prepare students to work in a wide range of occupations in the government, private, non-profit sectors that deal with national security broadly understood, and for the obligations of state, national, and global citizenship in the 21st century.

The Department, in collaboration with the College of Education, offers the B.A. in Political Science with Comprehensive Social Studies Teacher Licensure. The coursework for this licensure includes nearly equal numbers of courses in political science and affiliated social studies supervised by the Department of Political Science and Public Administration, and education courses supervised by the Department of Middle, Secondary, and K-12 Education. Students interested in the teacher licensure should declare their intent with the Department of Political Science and Public Administration to seek advising and academic progression.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

### Careers with Political Science

Political science majors gain analytical skills and communication abilities that are valued in a wide spectrum of potential career areas. An undergraduate degree in political science can lead to interesting careers in local, state, or federal government; law; private businesses; international organizations; the military; nonprofit organizations; political campaigns; journalism; teaching; public office; research and teaching at universities.

### Graduate Programs

On the graduate level, the Department of Political Science and Public Administration offers the Master of Public Administration, a professional degree for persons seeking training in public administration with specialization in local government and non-profit management. Students in the Gerald G. Fox MPA Program have the option to concentrate their studies in several specialized areas: Nonprofit Management, Urban Management & Policy, Arts Administration, Emergency Management, and Public Budgeting and Finance. (For more information, see the *Graduate Catalog*.) The department is also one of the social science departments that offers an interdisciplinary Ph.D. in Public Policy. (For more information, see the *Graduate Catalog*.)

## Bachelor of Arts in Political Science

### Admission Requirements

**Freshmen and Transfers**

- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

**Currently Enrolled Students**

- *Declaration of Major:* Change of Major form accepted year-round. Students declaring the major should meet with the assigned academic advisor before registering for the next semester

## Degree Requirements

A Major in Political Science for the B.A. degree requires 30 credit hours of political science courses.

The online option for the B.A. in Political Science degree is designed for transfer students who have earned the associate degree from a North Carolina community college or who have earned at least 60 credit hours and have completed the UNC Charlotte general education courses, including six credit hours in mathematical and logical reasoning.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Foreign Language Requirement (0-8 credit hours)**
For details on required courses, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirement.

**Major Courses (30 credit hours)**
***Major Core Courses (13 credit hours)***
*Introductory Courses (9 credit hours)*
POLS 1575 - American Politics (3)*
POLS 1501 - Global Social Science: Introduction to Comparative Politics (3) **
POLS 1150 - International Politics (3)

** Students who receive an evaluation of Qualified (3) or above on the Advanced Placement examination in American Politics will receive credit for POLS 1575*
*** Students who receive an evaluation of Qualified (3) or above on the Advanced Placement examination in Comparative Politics will receive credit for POLS 1501.*

***Methods Course (3-4 credit hours)***
Select one of the following. POLS 2220 should be taken unless there is a double major, as indicated. POLS 2220 and one of the Senior courses listed below fulfill the writing intensive courses required for graduation. If an equivalent social science methods course is taken that is not a writing intensive course, then another writing intensive course will need to be taken.

POLS 2220 - Political Science Methods (4)
COMM 3100 - Communication Research Methods (3) *(for double major in Political Science and Communication Studies)*
CJUS 2370 - Research Methods in Criminal Justice (3*) (for double major in Political Science and Criminal Justice)*
PSYC 3292 - Research Methodology II (3) *(for double major in Political Science and Psychological Science)*
SOCY 3155 - Sociological Research Methods (4) *(for double major in Political Science and Sociology)*

***Major Elective Courses (17 credit hours)***
*Political and Legal Philosophy Elective Course (3 credit hours)*
*Select one of the following:*
POLS 1170 - Introduction to Political Philosophy (3)
POLS 3070 - Topics in Political or Legal Philosophy (3)
POLS 3171 - History of Classical Political Philosophy (3)
POLS 3172 - African American Political Philosophy (3)
POLS 3173 - History of Modern Political Philosophy (3)
POLS 3175 - Philosophy of Law (3)
POLS 3176 - Fascism and Communism (3)
POLS 3177 - Social and Political Philosophy (3)

***Political Science Elective Courses (11-14 credit hours)***
Select any POLS courses to achieve a total of 30 credit hours in POLS courses.***

**** No more than 9 credit hours from POLS 3400, POLS 3800, POLS 4110, and POLS 4163 may be used to fulfill major requirements.*

**Capstone Course (3 credit hours)**
*Select one of the following:*
POLS 4110 - North Carolina Student Legislature (3) ***
POLS 4163 - Advanced Model United Nations (3) ***
POLS 4600 - Senior Seminar (3)
POLS 4700 - Honors Thesis (3)
POLS 4990 - Senior Thesis (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements

Students must earn a minimum GPA of 2.0 in all Political Science courses.

# Bachelor of Arts in Political Science *with Concentration in Security and Intelligence Systems*

The B.A. in Political Science with Concentration in Security and Intelligence Studies encourages students to gain a broad, well-rounded understanding of the ethics, processes, priorities, and outcomes of national security policy, with a focus on the role of information and intelligence in the policymaking process. The concentration is designed to prepare students to work in a wide range of occupations in the

government, private, non-profit sectors that deal with national security broadly understood, and for the obligations of state, national, and global citizenship in the 21st century.

## Admission Requirements

- See University Admission Requirements
- *Minimum GPA:* 2.0 in POLS courses
- *Other Requirements:* Political Science major

### Currently Enrolled Students

- *Declaration of Major:* Change of Major form accepted year-round. Students declaring the major should meet with the assigned academic advisor before registering for the next semester.

## Degree Requirements

### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

### Foreign Language Requirement (0-8 credit hours)

For details on required courses, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirement.

### Major Courses (30 credit hours)

***Major Core Courses (12-13 credit hours)***

*Required Core Courses (9 credit hours)*
POLS 1150 - International Politics (3)
POLS 1501 - Global Social Science: Introduction to Comparative Politics (3) **
POLS 1575 - American Politics (3)*

*Elective Core Course (3-4 credit hours)*
*Select one of the following:*
POLS 2220 - Political Science Methods (4)
CJUS 2370 - Research Methods in Criminal Justice (3)
COMM 3100 - Communication Research Methods (3)
PSYC 3292 - Research Methodology II (3)
SOCY 3155 - Sociological Research Methods (4)

*Notes:*
** Students who receive an evaluation of Qualified (3) or above on the Advanced Placement examination in American Politics will receive credit for POLS 1575.*

*** Students who receive an evaluation of Qualified (3) or above on the Advanced Placement examination in Comparative Politics will receive credit for POLS 1501.*

***Major Concentration Courses (9 credit hours)***
POLS 3380 – Security and Intelligence in a Democratic Society (3)
POLS 3381 - Critical Thinking Skills for Security and Intelligence (3)
POLS 3382 - Analytic Writing and Briefing (3)

***Major Elective Courses (9 credit hours)***
*Political and Legal Philosophy Elective Course (3 credit hours)*
*Select one of the following:*
POLS 1170 - Introduction to Political Philosophy (3)
POLS 3070 - Topics in Political or Legal Philosophy (3)
POLS 3171 - History of Classical Political Philosophy (3)
POLS 3172 - African American Political Philosophy (3)
POLS 3173 - History of Modern Political Philosophy (3)
POLS 3175 - Philosophy of Law (3)
POLS 3176 - Fascism and Communism (3)
POLS 3177 - Social and Political Philosophy (3)

*Political Science Elective Course (3 credit hours)*
Select any 3 credit hour POLS course to achieve a total of 30 credit hours in POLS courses. No more than 9 credit hours of POLS 3400, POLS 3800, POLS 4110, and POLS 4163 may be used to fulfill major requirements.

### Capstone Course (3 credit hours)

*Select one of the following:*
POLS 4110 - North Carolina Student Legislature (3)
POLS 4163 - Advanced Model United Nations (3)
POLS 4600 - Senior Seminar (3)
POLS 4700 - Honors Thesis (3)
POLS 4990 - Senior Thesis (3)

### Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements

A minimum GPA of 2.0 in concentration courses is required.

# Bachelor of Arts in Political Science *with Comprehensive Social Studies Teacher Licensure*

The Department of Political Science and Public Administration, in collaboration with the College of Education, offers a concentration to a North Carolina Teaching License in Social Studies. The coursework for this program includes 30 credit hours of coursework in political science (which is close to the 32 credit hours in education supervised by the Department of Middle, Secondary, and K-12 Education), and up to 21 credit hours of content in other social science disciplines. Students interested in teacher licensure should declare their intent with the Department of Political Science and Public Administration as soon as possible to prevent unnecessary delays.

## Admission Requirements

### Freshmen and Transfers

- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

### Currently Enrolled Students

- *Declaration of Major:* Teaching license orientation/advising session required upon declaration of major

## Degree Requirements

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Foreign Language Requirement (0-8 credit hours)**
For details, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirement.

**Foundation Courses (9 credit hours)**
POLS 1150 - International Politics (3)
POLS 1501 - Global Social Science: Introduction to Comparative Politics (3)
POLS 1575 - American Politics (3)

**Restricted Elective Courses (9-10 credit hours)**
*Select at least one course from each list.*

***Methods Course (3-4 credit hours)***
Select one of the following. POLS 2220 should be taken unless there is a double major, as indicated.

POLS 2220 - Political Science Methods (4)
CJUS 2370 - Research Methods in Criminal Justice (3) *(for double major in Political Science and Criminal Justice)*
COMM 3100 - Communication Research Methods (3) *(for double major in Political Science and Communication Studies)*
PSYC 3292 - Research Methodology II (3) *(for double major in Political Science and Psychological Science)*
SOCY 3155 - Sociological Research Methods (4) *(for double major in Political Science and Sociology)*

***Political Philosophy Course (3 credit hours)***
*Select a minimum of one of the following:*
POLS 1170 - Introduction to Political Philosophy (3)
POLS 3070 - Topics in Political or Legal Philosophy (3)
POLS 3171 - History of Classical Political Philosophy (3)
POLS 3172 - African American Political Philosophy (3)
POLS 3173 - History of Modern Political Philosophy (3)
POLS 3175 - Philosophy of Law (3)
POLS 3176 - Fascism and Communism (3)
POLS 3177 - Social and Political Philosophy (3)

***Non-Western Political Science Course (3 credit hours)***
*Select a minimum of one of the following:*
POLS 3133 - Middle East Politics (3)
POLS 3143 - African Politics (3)
POLS 3144 - Latin American Politics (3)
POLS 3148 - Chinese Politics (3)

**Capstone Course (3 credit hours)**
*Select one of the following:*
POLS 4110 - North Carolina Student Legislature (3)
POLS 4163 - Advanced Model United Nations (3)
POLS 4600 - Senior Seminar (3)
POLS 4700 - Honors Thesis (3)
POLS 4990 - Senior Thesis (3)

**Unrestricted Political Science Elective Courses (8-9 credit hours)**
Select any POLS courses to achieve a total of 30 credit hours in POLS courses. No more than 9 credit hours from POLS 3400, POLS 3800, POLS 4110, and POLS 4163 may be used to fulfill major requirements.

**Social Studies Courses (18 credit hours)**
ECON xxxx - Economics Course (3) (ECON 1101 is recommended)
GEOG 1501 - Global Social Science: Global Geography (3)
HIST 1502 - Global Arts/Humanities: Issues in Global History (3)
HIST 1575 - American Democracy's Past and Promise (3)
HIST 2050 - Themes in United States History (3)
HIST 2051 - Themes in European History (3)

**Minor in Secondary Education (32 credit hours)**
Students must have a Minor in Secondary Education to obtain teaching licensure. See the College of Education section of this Catalog for details on the requirements for the minor.

Licensure applications are the responsibility of the student and the Office of Teacher Education Advising and Licensure (TEAL) in the College of Education.

## Degree Total = 120 Credit Hours

## Progression Requirements

Students must obtain a cumulative GPA of 2.7 for admission to the College of Education. To complete the program, students must earn a grade of C or above in all Political Science, Social Studies background, and Education courses; earn a GPA of 2.75 or better in Political Science and Social Studies background courses; and earn a GPA of 2.75 or above in all Education courses.

# Minor in Political Science

The Minor in Political Science requires 18 credit hours of political science with a combined GPA of at least 2.0 for all POLS courses.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

## Minor Requirements

**Required Courses (9 credit hours)**
POLS 1150 - International Politics (3)
POLS 1501 - Global Social Science: Introduction to Comparative Politics (3)
POLS 1575 - American Politics (3)

**Elective Courses (9 credit hours)**
Select at least three POLS elective courses. Although students may repeat POLS 3400, POLS 3800, POLS 4110, or POLS 4163 for credit, no more than three hours of credit from any one of these courses may be used to fulfill the requirements for the Minor in Political Science.

## Minor Total = 18 Credit Hours

# Minor in Public Administration

## Admission Requirements

- Admission to the university as an undergraduate student
- See University Admission Requirements

## Minor Requirements

The Minor in Public Administration consists of 15 credit hours.

**Required Courses (9-15 credit hours)**

A minimum of 9 credit hours must come from the following courses:
POLS 2120 - Introduction to Public Policy (3)
POLS 3119 - State and Local Government (3)
POLS 3121 - Urban Politics and Policy (3)
POLS 3126 - Introduction to Public Administration (3)
POLS 3127 - Public Service in Nonprofit Organizations (3)

**Elective Courses (0-6 credit hours)**

The following courses can be used to fulfill any remaining hours needed of the 15-credit hour requirement. Note: Although students may repeat POLS 3010 and POLS 3400 for credit, no more than three hours of credit from any one of these courses may be used to fulfill the requirements for the Minor in Public Administration.

CJUS 2350 - Introduction to Corrections (3)
CJUS 2380 - Introduction to Law Enforcement (3)
COMM 2145 - Principles of Public Relations (3)
COMM 3115 - Health Communication (3)
COMM 3121 - Mass Communication and Society (3)
COMM 3125 - New Media for Communications (3)
COMM 3135 - Leadership, Communication, and Group Dynamics (3)
COMM 3141 - Organizational Communication (3)
GEOG 1103 - Spatial Thinking (4)
GEOG 1511 - Local Social Science: Urban and Regional Planning (3)
GEOG 2105 - Introduction to Economic Geography (3)
GEOG 2111 - Social Inequality and Planning (3) (SL)
GEOG 2200 - Introduction to Urban Studies (3)
GEOG 3106 - Sustainable Cities (3)
GEOG 3115 - Urban Transportation Problems (3)
GEOG 3200 - Land Use Planning (3)
GEOG 3210 - Regional Planning (3)
HLTH 2102 - Foundations of Public Health (3)
HLTH 3102 - Comparative Healthcare Systems (3)
POLS 3010 - Topics in American Politics or Public Administration (1 to 4)
POLS 3108 - Social Movements and Interest Groups (3)
POLS 3114 - Constitutional Law and Policy (3)
POLS 3115 - Civil Rights and Liberties (3)
POLS 3116 - Judicial Process (3)
POLS 3123 - Urban Political Geography (3)
POLS 3125 - Healthcare Policy (3)
POLS 3132 - Comparative Public Policy (3)
POLS 3135 - Terrorism (3)
POLS 3151 - International Political Economy (3)
POLS 3153 - European Union (3)
POLS 3154 - Cyberspace and Politics (3)
POLS 3382 - Analytic Writing and Briefing (3)
POLS 3400 - Internship in Political Science (3 to 6)
SOCY 2115 - Introduction to Organizations (3)
SOCY 2171 - Social Problems (3)
SOCY 4115 - Organizational Sociology (3)

## Minor Total = 15 Credit Hours

## Special Policies or Requirements

No more than 6 credit hours counted towards another major or minor may be used to fulfill the requirements for the Minor in Public Administration.

# Minor in Security and Intelligence Studies

Security and Intelligence Studies is an interdisciplinary approach to the study of national security policy. The Minor in Security and Intelligence Studies encourages students to gain a broad, well-rounded understanding of the ethics, processes, priorities, and outcomes of national security policy, with a focus on the role of information and intelligence in the policymaking process. The minor's interdisciplinary approach enables students to select courses across a wide range of disciplines. It is designed to prepare students to work in a wide range of occupations in the government, private, non-profit sectors that deal with national security broadly understood, and for the obligations of state, national, and global citizenship in the 21st century.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

See University Admission Requirements

## Minor Requirements

**Required Courses (9 credit hours)**

POLS 3380 – Security and Intelligence in a Democratic Society (3)
POLS 3381 - Critical Thinking Skills for Security and Intelligence (3)
POLS 3382 - Analytic Writing and Briefing (3)

**Elective Courses (9 credit hours)**

*Select courses from the following topics:*

***Terrorism and Political Violence***

POLS 3030 - Topics in Comparative or International Politics (1 to 4)
POLS 3135 - Terrorism (3)
POLS 3137 - International Human Rights (3)
POLS 3139 - Civil Wars and Political Violence (3)

***Africa***

AFRS 2221 - Modern Africa (3)
AFRS 3154 - Globalization in African History (3)
AFRS 3179 - African American Political Philosophy (3)
AFRS 3265 - African Economic Development (3)
AFRS 4105 - African International Relations (3)
AFRS 4630 - Environmental and Public Health in Africa (3)
AFRS 4640 - Environment, State, and Society in the Caribbean and Latin America (3)
HIST 2211 - Modern Africa (3)
POLS 3143 - African Politics (3)
POLS 3169 - African International Relations (3)

*Middle East*
ARBC 1201 - Elementary Arabic I (3)
ARBC 1202 - Elementary Arabic II (3)
FARS 1201 - Elementary Farsi I (3)
FARS 1202 - Elementary Farsi II (3)
HIST 2216 - The Modern Middle East (3)
POLS 3166 - Politics of the Islamic World (3)

*Europe and Russia*
FREN 1201 - Elementary French I (3)
FREN 1202 - Elementary French II (3)
GERM 1201 - Elementary German I (3)
GERM 1202 - Elementary German II (3)
HIST 2252 - Russian History from 1861 to the Present (3)
ITLN 1201 - Elementary Italian I (3)
ITLN 1202 - Elementary Italian II (3)
POLS 3153 - European Union (3)
RUSS 1201 - Elementary Russian I (3)
RUSS 1202 - Elementary Russian II (3)

*Latin America*
HIST 2207 - Modern Latin America (3)
POLS 3144 - Latin American Politics (3)
POLS 3155 - Latin American Political Economy (3)
POLS 3164 - U.S.-Latin American Relations (3)
SPAN 1101 - Elementary Spanish I (3)
SPAN 1102 - Elementary Spanish II (3)
SPAN 1201 - Elementary Spanish I (4)
SPAN 1202 - Elementary Spanish II (4)
SPAN 1205 - Accelerated Elementary Spanish I and II (4)

*China, Japan, and Asia*
CHNS 1201 - Elementary Chinese I (3)
CHNS 1202 - Elementary Chinese II (3)
JAPN 1201 - Elementary Japanese I (3)
JAPN 1202 - Elementary Japanese II (3)
HIST 2201 - History of Modern Asia (3)
POLS 3148 - Chinese Politics (3)
POLS 3165 - East Asia in World Affairs (3)

*International Relations*
AFRS 3265 - African Economic Development (3)
AFRS 4105 - African International Relations (3)
AFRS 4640 - Environment, State, and Society in the Caribbean and Latin America (3)
POLS 3137 - International Human Rights (3)
POLS 3151 - International Political Economy (3)
POLS 3152 - International Organizations (3)
POLS 3154 - Cyberspace and Politics (3)
POLS 3157 - American Foreign and Defense Policy (3)
POLS 3159 - Diplomacy in a Changing World (3)
POLS 3162 - International Law (3)
POLS 3165 - East Asia in World Affairs (3)
POLS 4600 - Senior Seminar (3) (Topics: International Conflict, Gambling and War, Politics of the Resource Curse)

*Methods, Analysis, and Argumentation*
CJUS 3363 - Mediation and Conflict Resolution (3)
CJUS 3365 - Interviewing in Criminal Justice (3)
CJUS 4370 - Data Analytics and Crime (3)
CJUS 4371 - Criminal Data Sources, Data Management, and Cleaning (3)
CJUS 4373 - Intelligence Analysis and Security Analytics (3)
CJUS 4374 - Geospatial Analytics and Crime (3)
CJUS 4376 - Social Network Analysis (3)
CJUS 4377 - Crime Measurement and Data Visualization (3)
WRDS 2101 - Advanced Writing: Research and Critical Analysis (3)
WRDS 3102 - The Effective Sentence: A Writing Course for All Majors (3)

*International Crime*
CJUS 3364 - The Administration of Criminal Justice (3)
CJUS 4361 - International Criminal Justice (3)
CJUS 4372 - Drug Analytics (3)
CJUS 4375 - Community-Oriented Policing, Problem-Solving, and Crime Analysis (3)
CJUS 4378 - Causes and Consequences of Crime (3)

### Minor Total = 18 Credit Hours

### Progression Requirements
Minimum GPA of 2.0 in all courses taken toward the minor.

## Honors Program in Political Science

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements
To be admitted into the Political Science Honors Program, a student must:

- Complete POLS 2220 with a grade of A
- Have an overall GPA at UNC Charlotte of at least 3.25
- Have a GPA of at least 3.5 in all Political Science classes taken at UNC Charlotte

Students may seek admission to the Political Science Honors Program upon fulfilling these requirements.

### Course Requirements
The Political Science Honors Program consists of a two-course sequence:
1) POLS 3700 in which the student does a literature review and develops a research design
2) POLS 4700 in which the student completes the research and finalizes the thesis. The student must do an oral defense of the thesis in front of a committee that includes the topic advisor and two other faculty members.

### Progression Requirements
To be awarded honors in Political Science, a student must:

- Complete the Honors Thesis (POLS 4700) with a grade of A, including certification by the student's honors committee that the thesis is of honors quality and deserves that grade.
- Earn a minimum GPA of 3.5 in Political Science courses
- Earn a minimum overall GPA of 3.25 at UNC Charlotte
- Complete the Application to Candidacy process for graduating with honors, as directed by the Honors College

Following successful completion of these requirements, the honors notation will appear on the student's official transcript.

## Early Entry: Master of Public Administration

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

See University Admission Requirements

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

### Progression Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree.

### Special Policies or Requirements

Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# Department of Psychological Science

psych.charlotte.edu

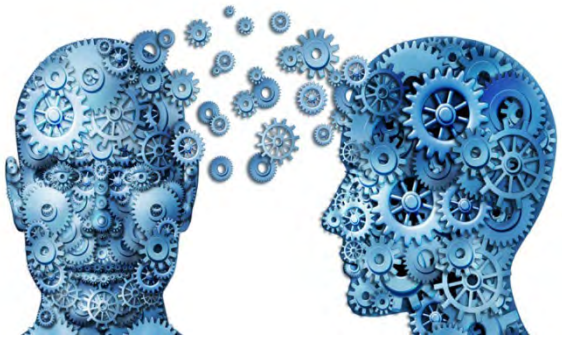
## Undergraduate Programs

- B.S. in Psychology
  - Honors Program
- Minor in Psychology
- Minor in Cognitive Science
- Early Entry: Ph.D. in Organizational Science

Relevant to all aspects of the human experience, psychology is the scientific study of human thoughts, feelings, and behavior. A broad field of study, psychologists seek to provide answers to a wide array of questions, such as:

- How do we learn and remember information?
- How do we make decisions and what influences those decisions?
- Why do people develop behavior disorders?
- What treatments are most effective for what problems?
- What are the changes involved in moving from infancy to old age?
- How do we form attitudes and attributions about other people and groups?
- How is behavior regulated by the brain?
- What are emotions and how do they influence behavior?
- How do people work best in groups and teams?
- How do we build and maintain relationships with others?
- How do psychological factors affect physical health?
- How do we assess human potential?

In addition to gaining knowledge of psychological theories, perspectives, and research findings from across the broad field of psychology, students who major (or minor) in psychology will also develop skills that will lead to success outside of the classroom, including how to read and think critically, how to communicate scientific findings effectively, how to evaluate research articles, and how to use data to make decisions. The degree in psychology should also help to achieve an understanding of ethical principles related to practice and research, and an appreciation for psychology's relationship to diversity, equity, and inclusiveness.



The Department of Psychological Science offers a Bachelor of Science (B.S.), an undergraduate Minor in Psychology, and Master of Arts (M.A.)

degree programs in General Psychology and Industrial and Organizational Psychology (see the *Graduate Catalog* for information on the M.A. programs).

The B.S. in Psychology prepares graduates for careers and/or graduate study in the areas of business, healthcare, medicine, counseling, criminal justice, education, and law.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

# Bachelor of Science in Psychology

## Admission Requirements

### Freshmen and Transfers

- See University Admission Requirements
- *Declaration of Major*: Incoming freshmen may enter UNC Charlotte as declared Psychology majors without additional admissions requirements.

### Currently Enrolled Students

- See University Admission Requirements
- *Minimum Overall GPA*: 2.0
- *Pre-Major/Prerequisite Courses*: Completion of the following with grades of C or above:
  - PSYC 1101 (within 2 attempts)
  - A Statistics (STAT 1220/STAT 1221*/STAT 1222 ) course (within 2 attempts)
  - A General Education science course with a lab outside the subject of Psychology

  * STAT 1221 or STAT 1222 is preferred because the course is designed for life or social and behavioral sciences, respectively.
- *Declaration of Major*: Applications to declare the major are accepted during approximately the 2nd month of classes each Fall and Spring term, as stated on the Department of Psychological Science's website (psych.charlotte.edu).

## Degree Requirements

A minimum of 120 total earned credit hours is required for the degree. The Major in Psychology requires 39 credit hours of coursework in the major, plus completion of a minor or second major, and other requirements as listed below. Psychology coursework in four areas is required: Research Methods/Critical Thinking Skills, Knowledge Base, Psychology Elective courses, and a Capstone course. No more than 13 credit hours (four courses) may be double-counted with another major, minor, or General Education requirements. General Psychology Lab may not be counted towards the major.

### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

### Foreign Language Requirement (0-8 credit hours)

For details on required courses, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirement.

### Major Courses (49 credit hours)

***Natural Sciences Courses (7 credit hours)***

Select two courses, one of which must be taken with its corresponding laboratory (L) course. Natural Sciences courses may also be used to satisfy General Education requirements. For a list of acceptable courses, see the General Education Program.

### Knowledge Base Area Courses (15 credit hours)

*Note: All courses must be completed with grades of C or better AND within 2 attempts to remain in the major.*

PSYC 1101 - General Psychology (3)
PSYC 2113 - Introduction to Brain, Behavior, and Mental Processes (3)
PSYC 2115 - Introduction to Self in Context (3)
PSYC 2117 - Introduction to Lifespan Development (3)
PSYC 2390 - Life Beyond the Psychology Bachelor of Science (3)

### Research Methods and Critical Thinking Area Courses (9 credit hours)

This core is designed to foster understanding of research methodological approaches in Psychology as well as to help students consume and critically think about psychological research. Students must complete a STAT 122X course prior to taking PSYC 2391. Following the larger, lecture based PSYC 2391, students will take a deep dive into psychological research by completing either PSYC 3291 or PSYC 3292 where students should expect to learn and develop APA style research writing skills.

PSYC 3291 and PSYC 3292 meet the same requirement toward the major; thus, students can only complete one without petitioning the department for a permit. To determine which course (PSYC 3291 or PSYC 3292), students can work with their professional advisor and review material from PSYC 2390.

To clarify, students can NOT enroll in PSYC 2391, PSYC 3291 and PSYC 3292 during the same academic semester. These courses cannot be taken concurrently. PSYC 2391 with a C or better is needed in order to take EITHER PSYC 3291 or PSYC 3292. PSYC 3291 and PSYC 3292 are mutually exclusive, meaning students can only take one.

Note: All courses must be completed with a grade of C or better AND within 2 attempts to remain in the major.

PSYC 2391 - Research Methodology I (3)
PSYC 3291 - Critical Thinking About Research (3)
or PSYC 3292 - Research Methodology II (3)
STAT 1220 - Elements of Statistics I (BUSN) (3)
or STAT 1221 - Elements of Statistics I (3)
or STAT 1222 - Introduction to Statistics (3)

### Capstone Course (3 credit hours)

Capstone courses serve as a culminating experience for the undergraduate program. Selection of a Capstone course should be made with future career and educational goals in mind. Enrollment in a Capstone course requires the student to have completed 90 or more credit hours of coursework, have a grade of C or above in PSYC 3291 or PSYC 3292, and any additional prerequisites as required by the individual course. A Capstone course may not be taken during the same term as PSYC 3291 or PSYC 3292.

Only one capstone may be taken. These courses are mutually exclusive.

The capstone must be completed with a grade of C or better AND within 2 attempts to remain a major.

Students may select their Capstone from the following list of courses:
PSYC 4099 - Advanced Topics in Psychological Research (3)
PSYC 4360 - Advanced Investigation in Health Psychology (3)
PSYC 4601 - Seminar in Experimental Psychology (3)
PSYC 4602 - Seminar in Human Adaptation and Behavior (3)
PSYC 4620 - Seminar in Industrial/Organizational Psychology (3)
PSYC 4633 - Seminar in Neuroscience (3)
PSYC 4651 - Seminar in Social Psychology (3)
PSYC 4655 - Seminar in Community Psychology (3)
PSYC 4660 - Seminar in Health Psychology (3)
PSYC 4671 - Seminar in Developmental Psychology (3)
PSYC 4702 - Honors Capstone Project II (3)
Any PSYC 43XX or PSYC 46XX

**Psychology Electives (15 credit hours)**
Students have the opportunity to chart a unique trajectory of elective courses at the 2300- , 3000- and 4000- level. Students will begin this process of reflection and navigation during PSYC 2390 and expected to continue by meeting with their professional advisor.

***2300-level Electives (3-6 credit hours)***
Students can chose to take 3-6 credit hours at the PSYC 23XX-level that are in alignment with their interests and trajectory following the completion of their undergraduate degree.

NOTE: PSYC 2390 and PSYC 2391 do NOT count as elective courses given they are core PSYC required courses for all PSYC majors.

PSYC 2300 - Psychology Success Strategies for Transfer Students (3)
PSYC 2301 - Introduction to Forensic Psychology (3)
PSYC 2302 - Introduction to Positive Psychology (3)
PSYC 2316 - Introduction to Cognitive Processes (3)
PSYC 2320 - Introduction to Industrial/Organizational Psychology (3)
PSYC 2333 - Introduction to Comparative Psychology (3)
PSYC 2340 - Psychology of Adjustment (3)
PSYC 2341 - Psychopathology (3)
PSYC 2350 - Introduction to Social Psychology (3)
PSYC 2360 - Introduction to Health Psychology (3)
PSYC 2370 - Child Development (3)
PSYC 2371 - Adolescent Development (3)
PSYC 2372 - Adult Development and Aging (3)

***3000-level or 4000-level Non-Capstone Electives (9-12 credit hours)***
Students can choose to take 9-12 credit hours at the PSYC 3000- or PSYC 4000- (non-Capstone) level that are in alignment with their interests and trajectory following the completion of their undergraduate degree.

NOTE: PSYC 3291 and PSYC 3292 do NOT count as elective courses given they meet core PSYC required courses for all PSYC majors. PSYC 4099, PSYC 43XX, PSYC 46XX, and PSYC 4702 do NOT count as elective courses given they meet the Capstone course requirement for all PSYC majors.

PSYC 3405, PSYC 3407, PSYC 3806, and PSYC 3808 are applied, high-impact courses. A total of 6 credit hours may apply towards their PSYC elective requirement. Additional credits taken may fulfill the unrestricted elective credits required to graduate.

PSYC 3001 - Topics in Psychology (1 to 3)
PSYC 3099 - Topics in Psychological Research (3)
PSYC 3101 - Sexual Behavior (3)
PSYC 3120 - Industrial Psychology (3)
PSYC 3121 - Organizational Psychology (3)
PSYC 3123 - Social and Personality Development (3)
PSYC 3125 - Older Worker and Retirement (3)
PSYC 3131 - Psychology of Learning and Memory (3)
PSYC 3132 - Sensation and Perception (3)
PSYC 3141 - Introduction to Clinical Psychology (3)
PSYC 3201 - Motivation (3)
PSYC 3216 - Introduction to Cognitive Science (3)
PSYC 3301 - Basic Processes in Psychological Assessment (3)
PSYC 3302 - History and Systems of Psychology (3)
PSYC 3316 - Language and Cognition (3)
PSYC 3333 - Behavioral Neuroscience (3)
PSYC 3347 - Child Psychopathology (3)
PSYC 3355 - Psychological Approaches to Diversity (3)
PSYC 3356 - Psychology of Women and Gender (3)
PSYC 3357 - Introduction to Community Psychology (3)
PSYC 3405 - Practicum in Applied Psychology (1 to 4)
PSYC 3407 - Service Learning in Psychology (1 to 4) (SL)
PSYC 3806 - Undergraduate Research Assistantship (1 to 4)
PSYC 3808 - Undergraduate Teaching Assistantship (3)
PSYC 4002 - Advanced Topics in Psychology (3)
PSYC 4116 - Cognitive Neuroscience (3)
PSYC 4151 - Psychology of Personality (3)
PSYC 4701 - Honors Capstone Project I (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Academic Advising
Students should seek advising from the Psychology Advising for Student Success (PASS) Center about courses most beneficial to their career and educational goals. In addition, the Department of Psychological Science actively participates in several interdisciplinary areas of study, including Gerontology, Women's and Gender Studies, and Cognitive Science.

## Progression Requirements
- A GPA (overall and PSYC-specific) of 2.0 or above must be maintained for the major. A grade of C or above in PSYC 1101, PSYC 2113, PSYC 2115, PSYC 2117, PSYC 2390, PSYC 2391, PSYC 3291 or PSYC 3292, a statistics course, the two Natural Science courses and one with corresponding lab, and the Capstone course within 2 attempts* is required to progress and remain in the major.

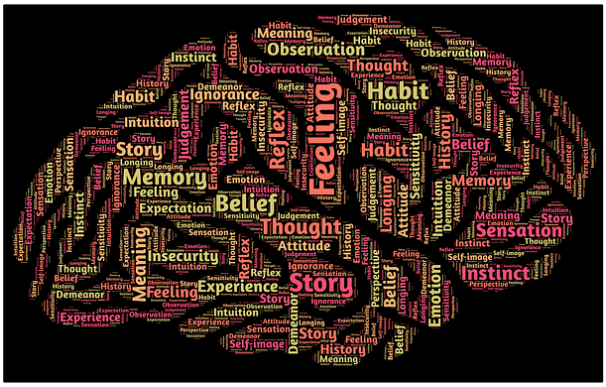
  ** An attempt is defined as any of the following grades or actions: (1) Earning a letter grade - **A, B, C, D, or F**; (2) Withdrawing from a course - **W or WE**; (3) Using a Grade Replacement - **QX**; (4) Auditing*

*a course or taking it on a Pass/No Credit basis - **AU or P/N**; (5) Receiving an Incomplete grade - **I**.*

***Please note:** If you receive a **WE** (Extenuating Circumstances Withdrawal), you are granted one additional attempt, for a total of three attempts maximum (including all WEs).*

- **Suggested/Ideal Major Specific Progression**
  - **Freshman Year**: PSYC 1101, STAT 1220/STAT 1221**/STAT 1222,** PSYC 2117
  - **Sophomore Year**: PSYC 2113, PSYC 2115, PSYC 2390, PSYC 2391, PSYC 3291 or PSYC 3292
  - **Junior Year**: Electives
  - **Senior Year**: Electives, Capstone

** STAT 1221 or STAT 1222 is preferred because the course is designed for life or social and behavioral sciences, respectively.




# Honors Program in Psychology

## Admission Requirements

### Current UNC Charlotte Undergraduate Students

To enroll in the first course of the Honors Project Sequence, students must have:

- See University Admission Requirements
- At least two semesters remaining before graduating
- Achieved Junior standing
- Completed PSYC 3291 or PSYC 3292 with a grade of B or above (a grade of A is preferred)
- A minimum overall GPA of 3.2 (or be close enough to a 3.2 to be reasonably confident of achieving it by graduation)
- A minimum Psychological Science GPA of 3.5 (or be close enough to a 3.5 to be reasonably confident of achieving it by graduation)
- If interested in Track 1 (honors thesis), identified a faculty member to supervise the Honors Thesis project BEFORE enrolling in PSYC 4701

For additional information and to complete the Psychological Science Departmental Honors application, see the Department of Psychological Science website.

## Course Requirements

### *Track 1 - Thesis Project*

Track 1 or the honors thesis project follows a traditional "mini-masters" model in which students work with a faculty mentor to develop an original research document incorporating original research in a student's area of interest. Students interested in the honors thesis track must identify a faculty mentor BEFORE enrolling in PSYC 4701.

Applications for the Track 1 or Honors thesis track will be accepted on a rolling basis given admission is predicated on a faculty mentor.
The guidelines below are meant to be flexible enough to allow for student creativity while also providing a roadmap.

During the first semester (PSYC 4701), the main steps students work through include:

1. Development of inquiry, the student identifies their topic of inquiry or research question.
2. Conduct a literature review to provide the relevant information to readers/observers to understand your project and your questions. (Together steps 1 and 2 cover the development of the project Introduction and literature review.)
3. Define the product and present the hypothesis, expectations and goals. Is your product going to be a research manuscript? A pedagogical advancement in teaching psychology? Or a creative project with a unique product? (This will be the description of study; i.e. Present Study section of manuscript.)
4. Describe, in detail, the steps you are going to take to meet your project goals. What procedures and methods will you use? What type of data will you be working with (if applicable) and how will you collect it? What planned analysis (if applicable)? Basically, describe in detail how you plan to conduct your project. A reader should be able to reconnect your project based on the details you provide. (This will form the methods section of your project proposal.)

The guiding steps above will yield a proposal comprising a literature review of relevant information, a project description, and planned methods and analyses. The Proposal will be due at the end of the first semester. At the end of the first semester there is also a formal presentation of the proposal before a committee of faculty members and other interested students.

During the second semester (PSYC 4702), the student follows through on the activities they proposed in PSYC 4701. Traditionally, students have conducted the research and/or analyses described in the proposal: they gather data, analyze the data, and write a final APA manuscript style honors thesis. At the end of the semester, there is a formal presentation of the completed thesis in front of a faculty committee and other interested students.

### *Track 2 - Directed Project*

Track 2 or the honors directed project is an applied research document involving research and application to a real-world problem or opportunity. Students interested in the direct project track do NOT need to identify a faculty mentor.

Applications for the directed project track will be due each year on March 31st. If accepted into the Honors Track 2 program, PSYC 4701 will be completed in the fall semester and PSYC 4702 will be completed in the spring semester of the academic year following the March 31st application. The directed project track follows a traditional academic

year cycle.

During the Fall semester (PSYC 4701), students will be required to pick two sub-areas or sub-specialties of psychology (e.g., clinical, neuro, developmental, health, cognition, social, etc.) to view a particular research topic of their choice. Students will then spend the semester examining the major concepts, philosophies, and theoretical approaches together in a "big picture" understanding of how the research topic is explored from their chosen specialty perspectives. At the end of the semester, students will have three products reviewed by the Honors in Psychology program director and two other faculty members holding positions on the department's Honors Committee.

For PSYC 4701, students will complete a 1500-2500-word literature review (product #1) accompanied by an annotated bibliography that includes 15-20 peer reviewed sources (product #2).

The third product is a brief recorded presentation and accompanying slides of the literature review. This presentation should be conference style talks in the form of research spotlights, limited to 3 minutes, that reflect the content of literature review (i.e., nothing extra). Three-minute research presentations are helpful in the development of academic, presentation, and research communication skills. The three-minute presentation format requires presenters to synthesize ideas and condense research findings and to craft presentations that are clear, concise, engaging, and convince a non-specialist audience of its importance and significance.

During the Spring semester (PSYC 4702), students will create a final product that integrates the project literature review submitted at the end of the previous semester and reflect on what this combined approach contributes to our understanding of their chosen research topic. The final product should be an alternative format (e.g. Book, Podcasts, Portfolio, etc.), not a traditional research manuscript. Students are encouraged to develop a product that aligns with their personal and/or professional goals. Products will be disseminated either on the Department of Psychological Science's website or presented at an undergraduate research conference.

Final products will be reviewed by the Honors in Psychology program director and two other faculty members holding positions on the department's Honors Committee.

PSYC 4701 - Honors Capstone Project I (3)
PSYC 4702 - Honors Capstone Project II (3)

### Progression Requirements

To graduate with departmental honors, students must complete all of the following:

- Receive a grade of A in PSYC 4701
- Receive a grade of A in PSYC 4702
- Obtain a minimum GPA of 3.5 in all Psychological Science (PSYC) courses
- Obtain a minimum overall GPA of 3.2
- Complete the Application to Candidacy process for graduating with honors, as directed by the Honors College

Upon meeting these requirements, an Honors notation will appear on the student's official transcript.

## Minor in Psychology

A Minor in Psychology consists of 22 credit hours, including a minimum of 18 credit hours of PSYC courses and 4 credit hours of Natural Science coursework outside of Psychology.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

### Minor Requirements

**Introductory Course (3 credit hours)**
PSYC 1101 - General Psychology (3)

**Knowledge Base Area Courses (9 credit hours)**
*To earn a minor, the following 3 psychology courses are required:*
PSYC 2113 - Introduction to Brain, Behavior, and Mental Processes (3)
PSYC 2115 - Introduction to Self in Context (3)
PSYC 2117 - Introduction to Lifespan Development (3)

**Elective Courses (6 credit hours)**
*Select two of the following:*
PSYC 2301 - Introduction to Forensic Psychology (3)
PSYC 2302 - Introduction to Positive Psychology (3)
PSYC 2316 - Introduction to Cognitive Processes (3)
PSYC 2320 - Introduction to Industrial/Organizational Psychology (3)
PSYC 2333 - Introduction to Comparative Psychology (3)
PSYC 2340 - Psychology of Adjustment (3)
PSYC 2341 - Psychopathology (3)
PSYC 2350 - Introduction to Social Psychology (3)
PSYC 2360 - Introduction to Health Psychology (3)
PSYC 2370 - Child Development (3)
PSYC 2371 - Adolescent Development (3)
PSYC 2372 - Psychology of Adult Development and Aging (3)
PSYC 3001 - Topics in Psychology (1 to 3)
PSYC 3101 - Sexual Behavior (3)
PSYC 3120 - Industrial Psychology (3)
PSYC 3121 - Organizational Psychology (3)
PSYC 3123 - Social and Personality Development (3)
PSYC 3125 - Older Worker and Retirement (3)
PSYC 3131 - Psychology of Learning and Memory (3)
PSYC 3132 - Sensation and Perception (3)
PSYC 3141 - Introduction to Clinical Psychology (3)
PSYC 3216 - Introduction to Cognitive Science (3)
PSYC 3316 - Language and Cognition (3)
PSYC 3347 - Child Psychopathology (3)
PSYC 3806 - Undergraduate Research Assistantship (1 to 4)
PSYC 3808 - Undergraduate Teaching Assistantship (3)

**Natural Science Courses (4 credit hours)**
- Select any General Education Natural Science course, excluding PSYC 1101
- Select the General Education Natural Science corresponding lab course

*Notes:*

- *A minimum of 3 credit hours of coursework at the 3000-level or above is required.*
- *No more than three credit hours of PSYC 3806 may be counted toward the minor.*

### Minor Total = 22 Credit Hours

### Progression Requirements
A grade of C or above is required for PSYC 1101 (within two attempts) and the Natural Science courses, with a GPA of 2.0 for all courses used to satisfy the minor requirement.

## Minor in Cognitive Science
Cognitive science is the interdisciplinary study of the processes and representations of the mind that enable intelligent thought and behavior in humans, animals, and machines. Of central concern are cognitive abilities such as perception and action, attention and cognitive control, memory, knowledge, language, problem solving, and emotion. The interdisciplinary minor in Cognitive Science is designed to provide students with an introduction to the questions of cognitive science and the variety of approaches used to answer those questions, including approaches drawn from Psychology, Computing, Philosophy, Linguistics, and Cognitive Neuroscience. Students completing a minor will add an interdisciplinary perspective to the training received in their major, better preparing them for employment or further study in a variety of behavioral and computational sciences. For additional details, visit the Cognitive Science program at cogsci.charlotte.edu.

The Minor in Cognitive Science is awarded only to students completing an undergraduate major at UNC Charlotte. A Minor in Cognitive Science consists of 18 credit hours: 3 credit hours of required coursework, 9 credit hours of restricted elective courses outside of the student's primary major, and the remaining 6 credit hours of unrestricted elective courses. Because course substitutions may be made based on current University offerings, students are encouraged to consult with the Director as they plan their schedules.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

### Minor Requirements
**Prerequisite Courses**
It is recommended that students take the following prerequisite courses. However, these courses are not part of the minor and they do not count toward the Minor in Cognitive Science.

PSYC 1101 - General Psychology (3)
ITSC 1212 - Introduction to Computer Science I (4)
ITSC 1212L - Programming Lab I (0)

**Required Core Course (3 credit hours)**
*Select one of the following:*
PSYC 3216 - Introduction to Cognitive Science (3)
ITCS 3216 - Introduction to Cognitive Science (3)

**Restricted Elective Courses (9 credit hours minimum)**
Students must take courses from 3 of the following 4 options of courses outside of their major. *[Students with a Major in Computer Science must fulfill the restricted elective courses in Psychology, Linguistics, and Philosophy. Students with a Major in Psychology must fulfill the restricted elective courses in Computing, Linguistics, and Philosophy.]*

***Option 1 (Computing)***
*Select one of the following:*
ITCS 1213 or above *(excluding ITCS 1610)* (3)
ITSC 1213 or above (3)
ITIS 2300 Web-Based Application Development (3)

***Option 2 (Linguistics)***
*Select one of the following:*
ENGL 4167 - The Mind and Language (3)

***Option 3 (Philosophy)***
*Select one of the following:*
PHIL 3242 – Philosophy of Mind (3)
PHIL 3251 - Advanced Logic (3)
PHIL 3252 - Philosophy of Language (3)

***Option 4 (Psychology)***
*Select one of the following:*
PSYC 2316 - Introduction to Cognitive Processes (3)
PSYC 3131- Psychology of Learning and Memory (3)
PSYC 3132 - Sensation and Perception (3)

**Unrestricted Elective Courses (6 credit hours minimum)**
ENGL 4161 - Modern English Grammar (3)
ENGL 4167 - Mind and Language (3)
ITCS 3152 - Symbolic Programming (3)
ITCS 3153 - Introduction to Artificial Intelligence (3)
ITIS 3130 - Human Computer Interaction (3)
PHIL 3242 – Philosophy of Mind (3)
PHIL 3251 - Advanced Logic (3)
PHIL 3252 - Philosophy of Language (3)
PSYC 2316 - Introduction to Cognitive Processes (3)
PSYC 3131 - Psychology of Learning and Memory (3)
PSYC 3132 - Sensation and Perception (3)
PSYC 3316 - Language and Cognition (3)
PSYC 4116 - Cognitive Neuroscience (3)

### Minor Total = 18 Credit Hours

### Progression Requirements
To qualify for the Minor in Cognitive Science, students must have a GPA of at least 2.0 in courses applied to the minor.

# Department of Religious Studies

religiousstudies.charlotte.edu

## Undergraduate Programs

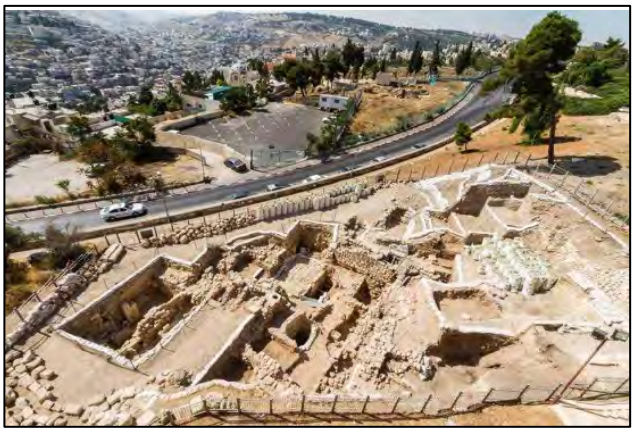
- B.A. in Religious Studies
  - Honors Program
- Minor in Religious Studies
- Early Entry: M.A. in Religious Studies

Religious studies is the academic inquiry into the fundamental stories, symbols, and practices that human beings construct to make sense of themselves and the worlds in which they live. The Department of Religious Studies pursues this inquiry across a range of religious traditions by examining their textual, historical, and cultural dimensions. This inquiry does not seek to determine which religious views are "right" or "true," but rather attempts to gain insight into how religious systems of meaning-making have shaped the cultural orders in which we live—with particular attention to how religious discourses have shaped understandings of race, gender, sexuality, nation, and class. The department is explicitly committed to the liberal arts tradition with a commitment to fostering both global and pluralistic perspectives, as well as excellence in close reading, critical thinking, and effective communication.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

### Degree Programs

The Department of Religious Studies offers a B.A. in Religious Studies, an undergraduate Minor in Religious Studies, an Honors program, and a M.A. in Religious Studies with an early entry program for undergraduates. Most students who choose to major or minor in Religious Studies do so to benefit from a broad liberal arts education focused on one of the most fascinating aspects of shared human life: religion. With the flexibility of the program and its relationship to other areas of the University, students can meet the specific objectives of religious studies while taking a wide range of courses in other departments. Many of our students successfully and easily double major in other programs.



### Undergraduate Scholarships

The department gives three scholarship awards to outstanding undergraduate majors: The Lambda Chi Alpha Scholarship, the Underwood Scholarship, and the Trudy Chappell Conrad Scholarship. They are awarded each year to recipients whose academic performance demonstrates a serious commitment to the field of religious studies. The department also houses a chapter of Theta Alpha Kappa, the national honor society for students focusing on religious studies at the undergraduate and graduate levels.

### Careers

Religious Studies majors are often asked, "What can you do with that?" While some graduates do go on to careers in ministry or social work, Religious Studies majors pursue a wide range of careers that demand strong writing, thinking, intercultural, and communication skills. Students can choose to go on to graduate school, law school, or other professional schools, or to careers in the non-profit sector, law, healthcare, public policy, education, and many other fields that value agile thinking and an understanding of diverse cultures.

## Bachelor of Arts in Religious Studies

### Admission Requirements

#### Freshmen

- See University Admission Requirements
- *Minimum GPA:* 2.0. Students with a GPA below 2.0 should consult with the Undergraduate Program Director.
- *Declaration of Major:* Online Change of Major form accepted year-round; appointment with the Undergraduate Program Director required prior to declaration for students already attending UNC Charlotte, freshmen who declare when applying, appointment at SOAR, or within first week of classes at UNC Charlotte

#### Transfers

- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Declaration of Major:* Transfer students declare when applying, appointment at SOAR, or within first week of classes at UNC Charlotte.
- *Transferable Credit Hours:* 24

#### Currently Enrolled Students

Online Change of Major form accepted year-round. Form found on the Religious Studies website.

### Degree Requirements

A Major in Religious Studies leading to the B.A. degree requires 30 credit hours in RELS courses. At least five (5) courses, including RELS 4600, must be at the 3000-level or above.

Two 3-credit hour courses that are cross-listed with Religious Studies courses but taught in another department or program (e.g., History, Anthropology, Africana Studies, Women and Gender Studies, etc.) may count toward the Major in Religious Studies. These courses may have the designation of the cross-listed department. For these courses to be counted toward the Religious Studies major, students must request from

their advisor a "Request for Cross-Listed Courses in Another Department to Count Toward The Major in Religious Studies" form and submit it to their advisor who will include it in their advising file. The form must be submitted no later than October 1 for graduation in December; March 1 for graduation in May; and June 1 for graduation in summer.

One general education course (RELS 1502, RELS 1512, or CTCM) taught by a faculty member in Religious Studies also may count toward the Major in Religious Studies.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Foreign Language Requirement (0-8 credit hours)**
For details on required courses, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirement.

**Major Courses (27 credit hours)**
***Academic Study of Religion Courses (9 credit hours)***
Three courses to orient the student to the academic study of religion: RELS 1502; RELS 2600; and 1 RELS 4000 level course

RELS 1502 - Global Arts/Humanities: Other Worlds (3)
RELS 2600 - Orientation to the Study of Religion (3)
RELS 4xxx (3)

*Note: RELS 2600 is a prerequisite for RELS 4600. Students are encouraged to take RELS 2600 as early as possible in their program; students typically take RELS 4600 during their final year.*

***Textual Analysis Courses (6 credit hours)***
Courses designated as *Textual Analysis [T]** focus on reading texts closely and carefully, examine methods and histories of textual interpretation, and consider how religious groups and cultures have composed, transmitted, and been shaped by texts. Select from two of the following:

RELS 1120 - The Bible and Its Interpreters (3)
RELS 1201 - Introduction to Religion (3)
RELS 2000 - Topics in Religious Studies (1 to 3)
RELS 2101 - Introduction to Western Religions (3)
RELS 2102 - Introduction to Asian Religions (3)
RELS 2104 - Hebrew Scriptures/Old Testament (3)
RELS 2105 - Introduction to the New Testament (3)
RELS 2110 - Judaism (3)
RELS 2120 - Christianity (3)
RELS 2131 - Islam (3)
RELS 2154 - Hinduism (3)
RELS 2157 - South Asian Buddhism (3)
RELS 2166 - Daoism (3)
RELS 2169 - Mahāyāna Buddhism in East Asia (3)
RELS 3000 - Special Topics in Religious Studies (3)
RELS 3001 - Special Topics in Religious Studies - Writing Intensive (3)
RELS 3090 - Readings in Primary Texts (3)
RELS 3104 - Prophecy and Prophetic Literature in Ancient Israel (3)
RELS 3113 - Jesus (3)
RELS 3115 - Early Christianity (3)
RELS 3116 - Paul (3)
RELS 3122 - Esoteric Traditions (3)
RELS 3129 - Christian Controversies (3)
RELS 3134 - Religion in the Contemporary United States (3)
RELS 3210 - Religion and Popular Culture (3)
RELS 3212 - Religion, Media, and Film (3)
RELS 3215 - Religion and Sexuality (3)
RELS 3220 - Religion and Gender (3)
RELS 3230 - Race, Religion and Murder (3)
RELS 3242 - Philosophy of Religion (3)
RELS 3300 - Religion and Healing (3)
RELS 3400 - Internships (3)
RELS 3450 - Study Abroad for Religious Studies Majors (36)
RELS 4000 - Advanced Topics in Religious Studies (3)
RELS 4010 - Major Figure in Religious Studies (3)
RELS 4040 - Major Approach to the Study of Religion (3)
RELS 4107 - Early Judaism (3)
RELS 4701 - Method and Theory in the Study of Religion (3)

***Historical Analysis Courses (6 credit hours)***
Courses designated as *Historical Analysis [H]** focus on a particular historical period or figure; consider a movement, idea, or institution across several historical periods; and examine questions of historiography more generally. Select from two of the following:

RELS 1120 - The Bible and Its Interpreters (3)
RELS 2101 - Introduction to Western Religions (3)
RELS 2104 - Hebrew Scriptures/Old Testament (3)
RELS 2105 - Introduction to the New Testament (3)
RELS 2107 - American Indian Lifeways (3)
RELS 2110 - Judaism (3)
RELS 2120 - Christianity (3)
RELS 2131 - Islam (3)
RELS 2154 - Hinduism (3)
RELS 2157 - South Asian Buddhism (3)
RELS 2166 - Daoism (3)
RELS 2169 - Mahāyāna Buddhism in East Asia (3)
RELS 2216 - The Modern Middle East (3)
RELS 3000 - Special Topics in Religious Studies (3)
RELS 3001 - Special Topics in Religious Studies - Writing Intensive (3)
RELS 3104 - Prophecy and Prophetic Literature in Ancient Israel (3)
RELS 3113 - Jesus (3)
RELS 3115 - Early Christianity (3)

RELS 3116 - Paul (3)
RELS 3129 - Christian Controversies (3)
RELS 3137 - Religion in the African American Experience (3)
RELS 3150 - African American Church and Civil Rights (3)
RELS 3232 - Islam in the African American Experience (3)
RELS 3400 - Internships (3)
RELS 3450 - Study Abroad for Religious Studies Majors (3 to 6)
RELS 4000 – Advanced Topics in Religious Studies (3)
RELS 4010 - Major Figure in Religious Studies (3)
RELS 4107 - Early Judaism (3)

***Cultural Analysis Courses (6 credit hours)***
Courses designated as *Cultural Analysis [C]** focus on how religious discourses, practices, institutions, and communities interact with, influence, and are influenced by the larger culture of which they are a part. Select from two of the following:

RELS 1201 - Introduction to Religion (3)
RELS 2000 - Topics in Religious Studies (1 to 3)
RELS 2102 - Introduction to Asian Religions (3)
RELS 2107 - American Indian Lifeways (3)
RELS 2108 - Religion in American Culture (3)
RELS 2216 - The Modern Middle East (3)
RELS 3000 - Special Topics in Religious Studies (3)
RELS 3001 - Special Topics in Religious Studies - Writing Intensive (3)
RELS 3122 - Esoteric Traditions (3)
RELS 3134 - Religion in the Contemporary United States (3)
RELS 3137 - Religion in the African American Experience (3)
RELS 3150 - African American Church and Civil Rights (3)
RELS 3210 - Religion and Popular Culture (3)
RELS 3212 - Religion, Media, and Film (3)
RELS 3215 - Religion and Sexuality (3)
RELS 3220 - Religion and Gender (3)
RELS 3230 - Race, Religion and Murder (3)
RELS 3232 - Islam in the African American Experience (3)
RELS 3242 - Philosophy of Religion (3)
RELS 3300 - Religion and Healing (3)
RELS 3400 - Internships (3)
RELS 3450 - Study Abroad for Religious Studies Majors (3 to 6)
RELS 4000 – Advanced Topics in Religious Studies (3)
RELS 4040 - Major Approach to the Study of Religion (3)
RELS 4701 - Method and Theory in the Study of Religion (3)

**Depending on how respective sections are taught, a course could fulfill the requirement for Cultural Analysis [C], Historical Analysis [H], or Textual Analysis [T]. Students **must** consult the course descriptions circulated each semester to determine which designations have been assigned to a particular course.*

**Restricted Elective Course (3 credit hours)**
*Select a RELS elective course in consultation with the academic advisor.*
RELS xxxx - Religious Studies Elective (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

### Progression Requirements
A GPA of 2.0 is required for the major.

## Minor in Religious Studies
A Minor in Religious Studies consists of a minimum of 15 credit hours.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

**New Transfer**
See University Admission Requirements

### Minor Requirements
Select any RELS courses that total 15 credit hours to complete the Minor in Religious Studies. At least two of the RELS courses must be at the 3000-level or above.

RELS 1xxx-4xxx - Religious Studies Elective (3)
RELS 1xxx-4xxx - Religious Studies Elective (3)
RELS 1xxx-4xxx - Religious Studies Elective (3)
RELS 3xxx-4xxx - Religious Studies Elective (3)
RELS 3xxx-4xxx - Religious Studies Elective (3)

One general education course (RELS 1502, RELS 1512, or CTCM) taught by a faculty member in Religious Studies also may count toward the Minor in Religious Studies.

### Minor Total = 15 Credit Hours

### Progression Requirements
A GPA of 2.0 is required for the minor.

## Honors Program in Religious Studies
The Department of Religious Studies offers an Honors Program that allows students to deepen their consideration of approaches to the study of religion and to explore a well-articulated question in a written thesis. The thesis research must be presented orally to the faculty as a whole. Additionally, students must demonstrate, in writing, evidence of a

concentration in their course of study, to the satisfaction of the Religious Studies Honors Undergraduate Studies Committee.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

See University Admission Requirements

**New Transfer**

See University Admission Requirements

### Course Requirements

RELS 4790 - Honors Thesis Proposal and Candidacy (3)
RELS 4791 - Honors Thesis (3)

### Progression Requirements

To be awarded honors in Religious Studies, candidates must:

- Write an honors thesis of A grade quality, as judged by their thesis director
- Complete RELS 4790 and RELS 4791 with grades of A
- Achieve a minimum GPA of 3.25 in RELS courses
- Achieve a minimum overall GPA of 3.0
- Complete all requirements of the B.A. in Religious Studies degree
- Complete the Application to Candidacy process for graduating with honors, as directed by the Honors College

The honors notation will appear on a student's official transcript.

## Early Entry: Master of Arts in Religious Studies

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Acceptable scores on the appropriate graduate standardized test (e.g., GRE)
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

### Progression Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree.

### Special Policies or Requirements

Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# ROTC: Air Force/ Space Force
## Department of
# Aerospace Studies

afrotc.charlotte.edu

## Undergraduate Programs

- Minor in Aerospace Studies

The Air Force ROTC program is designed to be a four year program resulting in a commission into the United States Air Force or Space Force as a second lieutenant. With an approved education plan, the program can be completed in three years through concurrent enrollment in Freshman- and Sophomore-level courses (students should contact an Air Force ROTC advisor if they have less than four years remaining until graduation to determine the best plan for their situation).

Cadets spend the first two years in the General Military Course (GMC). During their final semester in the GMC, cadets compete nationally for an enrollment allocation into the Professional Officer Course (POC). If selected, cadets attend a 4-week field training encampment during the summer and enter the POC upon completion. Cadets must complete a minimum of two years in the POC.

All cadets are required to complete 16 credit hours of Aerospace Studies coursework along with eight semesters of leadership laboratory and attend two hours of physical training each week to earn a commission. The Minor in Aerospace Studies has the same requirements. Note: With the department chair's approval, 3 to 6 credit hours may be waived for prior service or time spent in JROTC.

For more information about program requirements, visit afrotc.charlotte.edu. This website also includes contact information for students to reach an Air Force ROTC advisor to discuss their particular situation.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

## Minor in Aerospace Studies

All cadets are required to complete 16 credit hours of Aerospace Studies coursework, plus lab courses, for the award of the Minor in Aerospace Studies.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

### Minor Progression Requirements

The cumulative GPA for all courses used toward the minor must be 2.0 or greater, with no course grade lower than a C.

**General Military Courses (4 credit hours)**
*Freshman Fall semester*
AERO 1101 - Aerospace Studies 100-1 (1)
AERO 1100 - Leadership Laboratory (0 to 3)

*Freshman Spring semester*
AERO 1102 - Aerospace Studies 100-2 (1)
AERO 1100 - Leadership Laboratory (0 to 3)

*Sophomore Fall semester*
AERO 2101 - Aerospace Studies 200-1 (1)
AERO 1100 - Leadership Laboratory (0 to 3)

*Sophomore Spring semester*
AERO 2102 - Aerospace Studies 200-2 (1)
AERO 1100 - Leadership Laboratory (0 to 3)

**Professional Officer Courses (12 credit hours)**
*Junior Fall semester*
AERO 3101 - Aerospace Studies 300-1 (3)
AERO 1100 - Leadership Laboratory (0 to 3)

*Junior Spring semester*
AERO 3102 - Aerospace Studies 300-2 (3)
AERO 1100 - Leadership Laboratory (0 to 3)

*Senior Fall semester*
AERO 4101 - Aerospace Studies 400-1 (3)
AERO 1100 - Leadership Laboratory (0 to 3)

*Senior Spring semester*
AERO 4102 - Aerospace Studies 400-2 (3)
AERO 1100 - Leadership Laboratory (0 to 3)

**Total = 16 Credit Hours**

# ROTC: Army / Department of Military Science

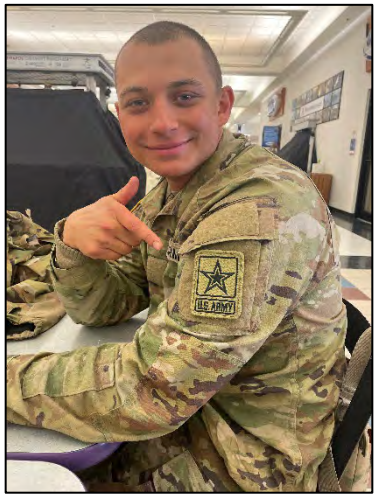
arotc.charlotte.edu

## Undergraduate Programs

- **Minor in Military Science**

The Department of Military Science is also known as the Army ROTC (Reserve Officers' Training Corps). Participation in Army ROTC enhances the education of both men and women by providing world class leadership training opportunities applicable in corporate, executive, and government leadership positions, along with practical hands-on expertise in these areas. Students participate in the Basic Course to develop leadership skills, then may be eligible to continue in the Advanced Course in order to pursue a commission as an officer in the United States Army, Army Reserves, or Army National Guard.

The Army ROTC program is designed to complement students' major area of study. Participants are also eligible to obtain a Minor in Military Science through the courses taken in the UNC Charlotte Army ROTC program. Students not interested in Active Duty can be guaranteed a commission in the Army Reserve or National Guard through the Guaranteed Reserve Forces Duty (GRFD) Program and eligible to participate in the Partnership for Youth Success (PaYS) Program. The PaYS Program guarantees an interview with partnering Fortune 500 companies.



The Basic Course and the Advanced Course comprise the Military Science curriculum.

## Basic Course Curriculum

The Basic Course is usually taken during the first and second years, and covers such subjects as basic military techniques, management principles, national defense, military history, and leadership development. Enrollment in the Basic Course can begin in any term in the first and second years, and does not require prior JROTC experience. No military commitment is incurred for participation in the Basic Course. After completing the Basic Course, students who have demonstrated the potential to become officers and who have met the physical and scholastic standards for commissioning are eligible to enroll in the Advanced Course. Students pursuing a military commission receive Basic Course credit by completing MSCI 1000- and 2000-level courses and leadership labs; attending the Cadet Initial Entry Training (CIET) at Fort Knox, Kentucky, during the summer between a student's Sophomore and Junior years; or by completing Basic Combat Training (BCT).

## Two-Year Commissioning Program

The Two-Year Commissioning Program is designed for upcoming Juniors who did not take ROTC during the first two years of college and want to pursue a military commission. To enter the two-year program, students must attend a fully-paid, four-week, Cadet Initial Entry Training (CIET) at Fort Knox, Kentucky, during the summer between their Sophomore and Junior years. After successfully completing the CIET, students who meet scholastic requirements may enroll in the Advanced Course. Students who complete Basic Combat Training (BCT) may also be eligible to enroll in the Advanced Course, with approval from the Department Chair.

## Advanced Course Curriculum

The Advanced Course is taken during a student's last four semesters. It includes instruction in organization and management, principles of training management, tactics, ethics and professionalism, further leadership development, and physical fitness training. During the summer between their Junior and Senior years, Advanced Course students pursuing a military commission will attend a fully-paid, four-week Cadet Leader Course at Fort Knox, Kentucky. This course gives students the chance to put into practice the leadership theories and principles, and military skills learned in the classroom, and introduces them to how the Army functions in a field environment. Advanced Course students must complete MSCI 3000- and 4000-level courses, leadership labs, and one 3-credit hour approved American military history class. The MSCI 3000-level courses must be taken in sequence. Students not pursuing a military commission would receive the same credited class and lab hours but would not participate in the following: physical fitness program, field training exercises, the Cadet Leader Course, or other incentive programs. Completion of the Advanced Course results in a Minor in Military Science.

## Minor in Military Science

The Minor in Military Science is open to all UNC Charlotte students, regardless if they are willing to contract with the United States Army. A Minor in Military Science provides expertise in leadership, ethics, professionalism, briefing techniques, national security issues, American history, team-building, and military law, as well as written and oral communication skills. Experience gained through this minor would be an advantage to any student interested in future government employment. Applications to request this minor must be processed by the Department of Military Science.

The minor provides students with an opportunity to study leadership in a contemporary operational environment with a focus on military involvement in political decisions, while also recognizing that the academic study of Military Science is intrinsically linked to political and international relations with focus on particular aspects of leadership. In

addition to taking courses in Military Science, students participating in this minor would select a course pertaining to military history-related topics that impact the social, economic, and political environment.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

**New Transfer**
See University Admission Requirements

### Minor Requirements

A Minor in Military Science consists of a minimum of 19 credit hours, including 16 credit hours at the 3000-level and above within the department and one American military history-related course.

**Required Core Courses (16 credit hours)**
MSCI 3101 - Adaptive Team Leadership (3)
MSCI 3101L - Adaptive Team Leadership Lab (1)
MSCI 3102 - Applied Team Leadership (3)
MSCI 3102L - Applied Team Leadership Lab (1)
MSCI 4101 - Developing Adaptive Leaders (3)
MSCI 4101L - Developing Adaptive Leaders (1)
MSCI 4102 - Leadership in a Complex World (3)
MSCI 4102L - Leadership in a Complex World Lab (1)

**Elective American Military History-Related Courses (3 credit hours)***
*Select one of the following:*
HIST 2120 - American Military History (3)
HIST 2284 - World War II: The European Theatre (3)
HIST 2285 - World War II: The Pacific Theatre (3)
HIST 3141 - World War I (3)
HIST 3202 - American Revolution, 1750-1815 (3)
HIST 3211 - Civil War and Reconstruction, 1860-1877 (3)
MSCI 3000 - Evolution of American Warfare (3)

**Other courses that do not appear on this list may be approved by the department chair if they pertain to military history.*

### Minor Total = 19 Credit Hours

### Progression Requirements

The cumulative GPA for all courses used toward the minor must be 2.0 or greater, with no individual course grade lower than a C.

## Scholarship Program

On-campus 2-, 2 ½-, 3-, 3 ½-, and 4- year scholarships are available and awarded on a competitive basis, providing either full tuition and mandatory fees or room and board. Scholarships also provide $600 per semester for books and supplies, and a tax-free tiered stipend of $420 per academic month, based on academic year. Four-year scholarships are available online at www.goarmy.com/rotc to students who apply while a Junior or Senior in high school. Four-year applicants do not have to be enrolled in high school JROTC to apply and incur no military obligation by applying. The application period starts on June 1 and ends on January 10 of a student's high school senior year. Guaranteed Reserve Forces Duty Scholarships are also available to students that are currently serving in the Army National Guard or Army Reserves and desire no active duty commitment. All scholarships are based on merit, not financial need. Priority goes to STEM (Science, Technology, Engineering, and Mathematics) majors. All scholarship incentives are subject to change due to legislation and funding.

# Department of Sociology

sociology.charlotte.edu

## Undergraduate Programs

- B.A. in Sociology
  - Medical Sociology
  - Organizations, Occupations, and Work
  - Social Problems and Policy
  - Sociological Social Psychology
  - Honors Program
- Minor in Sociology
- Early Entry: M.A. in Sociology

Sociology is the scientific study of human social life. It focuses upon the forces that organize and structure societies and smaller groups, as well as the forces that disorganize and threaten to dissolve them. As a science, sociology applies an objective and systematic method of investigation to identify the patterns and forms of social life and to understand the processes by which they are established and changed.

The study of sociology is attractive to students seeking a liberal education and immediate employment, as well as to those preparing for further study and professional careers. As a liberal arts program, it enables students to understand the social contexts in which they find themselves and the social forces that shape personality, actions, and interactions with others. As a pre-professional program it provides an excellent background for people entering social work, law, teaching, the ministry, journalism, planning, public relations and personnel services. It also provides analytical skills related to market research and program evaluation in human services, sales, management, and other business activities.

The Department of Sociology offers an academic major leading to a Bachelor of Arts degree, as well as opportunities to pursue concentrations in Medical Sociology; Organizations, Occupations, and Work; Social Problems and Policy; and Sociological Social Psychology. There is also a departmental honors program for undergraduate students. On the graduate level, the department offers the M.A. degree in Sociology. For details, see the *Graduate Catalog*.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

## Bachelor of Arts in Sociology

Students may complete the general B.A. in Sociology degree program or, if desired, complete a concentration in one of four substantive areas as part of the B.A. in Sociology degree. The concentration is optional. The concentration requires a total of 4 courses, in which one is a required course for the specific concentration and the other three courses are selected from an approved list of electives for the specific concentration. These courses will not add to the total number of hours required for the major, but will count toward the elective hours already required for the major.

### Admission Requirements

**Freshmen and Transfers**

- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

**Currently Enrolled Students**

- *Declaration of Major:* Change of Major form accepted year-round. See the Sociology Department website for more information.

### Degree Requirements

A Major in Sociology leading to the B.A. degree consists of a minimum of 32 credit hours of sociology courses with a minimum of 120 total credit hours, and completion of General Education requirements. All Sociological Theory Core courses, Sociological Research Methods, Quantitative Analysis, and Senior Seminar courses are restricted to majors and minors only. Some double majors may only have 31 credit hours of approved sociology courses with substitution of Research Methods courses: Psychology, Criminal Justice, and Political Science.

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

The Sociology Department offers the SOCY 1501 (Global Theme–Sociological Approaches to Global Issues) and SOCY 1511 (Local Theme–Sociological Approaches to Local Issues) general education courses. These are open to all students within and outside the department.

**Foreign Language Requirement (0-8 credit hours)**

For details on required courses, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirement.

**Foundation Course (3 credit hours)**

SOCY 1101 - Introduction to Sociology (3)

**Sociological Theory Course (3 credit hours)**

*Select one of the following:*
SOCY 3153 - Sociological Theory (3)
SOCY 4153 - Contemporary Sociological Theory (3)

**Sociological Research Core Courses (8 credit hours)**

SOCY 3155 - Sociological Research Methods (4)
SOCY 4156 - Quantitative Analysis (4)
SOCY 4156L - Quantitative Analysis Lab (0)

**Restricted Elective Courses (15 credit hours)**

9 of the 15 credit hours must be SOCY courses at the 3000 level or above. No more than 6 credit hours of sociology electives at the 2000 level will be calculated in the completion of the major.

SOCY 2xxx-4xxx - Sociology Elective (3)
SOCY 2xxx-4xxx - Sociology Elective (3)
SOCY 3xxx-4xxx - Sociology Elective (3)

SOCY 3xxx-4xxx - Sociology Elective (3)
SOCY 3xxx-4xxx - Sociology Elective (3)

**Senior Seminar (3 credit hours)**
All Sociology majors, except for those students enrolled as Sociology Honors students, must complete a Senior Seminar course. Sociology Honors students are exempt from this requirement pending successful completion of SOCY 3799.

SOCY 4699 - Senior Seminar in Sociology (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements
All Major Courses above must be completed with a grade of C or above. Majors are allowed a maximum of three attempts, which include any grade of D, F, or W, of any of the courses to fulfill their major requirements.

# Bachelor of Arts in Sociology *with Concentration in Medical Sociology*
Students may complete the general B.A. in Sociology degree program or, if desired, complete a concentration in one of four substantive areas as part of the B.A. in Sociology degree. The concentration is optional. The concentration requires a total of 4 courses, in which one is a required course for the specific concentration and the other three courses are selected from an approved list of electives for the specific concentration. These courses will not add to the total number of hours required for the major, but will count toward the elective hours already required for the major.

## Admission Requirements
**Freshmen and Transfers**
- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

**Currently Enrolled Students**
- *Declaration of Major:* Change of Major form accepted year-round. See the Sociology Department website for more information.

## Degree Requirements
A Major in Sociology leading to the B.A. degree consists of a minimum of 32 credit hours of sociology courses with a minimum of 120 total credit hours, completion of general education requirements, and a minor or double major. All Sociological Theory Core courses, Sociological Research Methods, Quantitative Analysis, and Senior Seminar courses are restricted to majors and minors only. Some double majors may only have 31 credit hours of approved sociology courses with substitution of Research Methods courses: Psychology, Criminal Justice, and Political Science.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

The Sociology Department offers the SOCY 1501 (Global Theme–Sociological Approaches to Global Issues) and SOCY 1511 (Local Theme–Sociological Approaches to Local Issues) general education courses. These are open to all students within and outside the department.

**Foreign Language Requirement (0-8 credit hours)**
For details on required courses, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirement.

**Foundation Course (3 credit hours)**
SOCY 1101 - Introduction to Sociology (3)

**Sociological Theory Course (3 credit hours)**
*Select one of the following:*
SOCY 3153 - Sociological Theory (3)
SOCY 4153 - Contemporary Sociological Theory (3)

**Sociological Research Core Courses (8 credit hours)**
SOCY 3155 - Sociological Research Methods (4)
SOCY 4156 - Quantitative Analysis (4)
SOCY 4156L - Quantitative Analysis Lab (0)

**Concentration Courses (12 credit hours)**
Note: 9 out of 15 credit hours from the Restricted Elective Courses (3 credit hours) below and Concentration Courses (12 credit hours) combined must be SOCY courses at the 3000 level or above. No more than 6 credit hours of sociology elective and concentration courses at the 2000 level will be calculated in the completion of the major and concentration.

***Required Concentration Course (3 credit hours)***
SOCY 2169 Sociology of Health and Illness (3)

***Elective Concentration Courses (9 credit hours)***
*Select 3 of the following:*
SOCY 2100 - Aging and the Lifecourse (3) (SL)
SOCY 3125 - Older Worker and Retirement (3)
SOCY 3261 - Human Sexuality (3)
SOCY 3267 - Sociology of Dying, Death, and Bereavement (3)
SOCY 4168 - Sociology of Mental Health and Illness (3)
SOCY 4169 - Health Disparities (3)
SOCY 4290 - The Experience of Loneliness (3)
Other SOCY courses with approval of advisor

**Restricted Elective Course (3 credit hours)**
*Select one of the following:*
SOCY 2xxx-4xxx - Sociology Elective (3)

**Senior Seminar (3 credit hours)**
All Sociology majors, except for those students enrolled as Sociology Honors students, must complete a Senior Seminar course. Sociology Honors students are exempt from this requirement pending successful completion of SOCY 3799.

SOCY 4699 - Senior Seminar in Sociology (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements
All Major Courses and the required Concentration Course above must be completed with a grade of C or above. Majors are allowed a maximum of three attempts, which include any grade of D, F, or W, of any of the courses to fulfill their major requirements. A GPA of 2.5 must be earned in the concentration.

# Bachelor of Arts in Sociology *with Concentration in Organizations, Occupations, and Work*
Students may complete the general B.A. in Sociology degree program or, if desired, complete a concentration in one of four substantive areas as part of the B.A. in Sociology degree. The concentration is optional. The concentration requires a total of 4 courses, in which one is a required course for the specific concentration and the other three courses are selected from an approved list of electives for the specific concentration. These courses will not add to the total number of hours required for the major, but will count toward the elective hours already required for the major.

## Admission Requirements
**Freshmen and Transfers**
- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

**Currently Enrolled Students**
- *Declaration of Major:* Change of Major form accepted year-round. See the Sociology Department website for more information.

**Online-Only Option**
Students may also apply to earn an online-only B.A. in Sociology with Concentration in Organizations, Occupations, and Work. Students must meet the following criteria for entry into this program: transfer students who have (1) earned the associate's degree or (2) earned at least 60 credit hours and have completed the UNC Charlotte general education courses, including six credit hours in mathematical and logical reasoning and six credit hours of foreign language.

Students submit change of Major requests to the online portal link for Sociology Distance Education: SOCY Change of Major form.

## Degree Requirements
A Major in Sociology leading to the B.A. degree consists of a minimum of 32 credit hours of sociology courses with a minimum of 120 total credit hours, completion of general education requirements, and a minor or double major. All Sociological Theory Core courses, Sociological Research Methods, Quantitative Analysis, and Senior Seminar courses are restricted to majors and minors only. Some double majors may only have 31 credit hours of approved sociology courses with substitution of Research Methods courses: Psychology, Criminal Justice, and Political Science.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

The Sociology Department offers the SOCY 1501 (Global Theme–Sociological Approaches to Global Issues) and SOCY 1511 (Local Theme–Sociological Approaches to Local Issues) general education courses. These are open to all students within and outside the department.

**Foreign Language Requirement (0-8 credit hours)**
For details on required courses, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirement.

**Foundation Course (3 credit hours)**
SOCY 1101 - Introduction to Sociology (3)

**Sociological Theory Course (3 credit hours)**
*Select one of the following:*
SOCY 3153 - Sociological Theory (3)
SOCY 4153 - Contemporary Sociological Theory (3)

**Sociological Research Core Courses (8 credit hours)**
SOCY 3155 - Sociological Research Methods (4)
SOCY 4156 - Quantitative Analysis (4)
SOCY 4156L - Quantitative Analysis Lab (0)

**Concentration Courses (12 credit hours)**
Note: 9 out of 15 credit hours from the Restricted Elective Courses (3 credit hours) below and Concentration Courses (12 credit hours) combined must be SOCY courses at the 3000 level or above. No more than 6 credit hours of sociology elective and concentration courses at the 2000 level will be calculated in the completion of the major and concentration.

***Required Concentration Course (3 credit hours)***
SOCY 2115 - Introduction to Organizations (3)

***Elective Concentration Courses (9 credit hours)***
*Select 3 of the following:*
SOCY 3125 - Older Worker and Retirement (3)
SOCY 4111 - Social Inequality (3)
SOCY 4112 - Sociology of Work (3)

SOCY 4114 - Professionalism in Sociology (3)
SOCY 4115 - Organizational Sociology (3)
SOCY 4265 - Social Psychology of Law (3)
SOCY 4480 - Internship in Sociology (3 to 6)
Other SOCY courses with advisor approval

**Restricted Elective Course (3 credit hours)**
*Select one of the following:*
SOCY 2xxx-4xxx - Sociology Elective (3)

**Senior Seminar (3 credit hours)**
All Sociology majors, except for those students enrolled as Sociology Honors students, must complete a Senior Seminar course. Sociology Honors students are exempt from this requirement pending successful completion of SOCY 3799.

SOCY 4699 - Senior Seminar in Sociology (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements
All Major Courses and the required Concentration Course above must be completed with a grade of C or above. Majors are allowed a maximum of three attempts, which include any grade of D, F, or W, of any of the courses to fulfill their major requirements. A GPA of 2.5 must be earned in the concentration.

# Bachelor of Arts in Sociology *with Concentration in Social Problems and Policy*
Students may complete the general B.A. in Sociology degree program or, if desired, complete a concentration in one of four substantive areas as part of the B.A. in Sociology degree. The concentration is optional. The concentration requires a total of 4 courses, in which one is a required course for the specific concentration and the other three courses are selected from an approved list of electives for the specific concentration. These courses will not add to the total number of hours required for the major, but will count toward the elective hours already required for the major.

## Admission Requirements
**Freshmen and Transfers**
- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

**Currently Enrolled Students**
- *Declaration of Major:* Change of Major form accepted year-round. See the Sociology Department website for more information.

## Degree Requirements
A Major in Sociology leading to the B.A. degree consists of a minimum of 32 credit hours of sociology courses with a minimum of 120 total credit hours, completion of general education requirements, and a minor or double major. All Sociological Theory Core courses, Sociological Research Methods, Quantitative Analysis, and Senior Seminar courses are restricted to majors and minors only. Some double majors may only have 31 credit hours of approved sociology courses with substitution of Research Methods courses: Psychology, Criminal Justice, and Political Science.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

The Sociology Department offers the SOCY 1501 (Global Theme–Sociological Approaches to Global Issues) and SOCY 1511 (Local Theme–Sociological Approaches to Local Issues) general education courses. These are open to all students within and outside the department.

**Foreign Language Requirement (0-8 credit hours)**
For details on required courses, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirement.

**Foundation Course (3 credit hours)**
SOCY 1101 - Introduction to Sociology (3)

**Sociological Theory Course (3 credit hours)**
*Select one of the following:*
SOCY 3153 - Sociological Theory (3)
SOCY 4153 - Contemporary Sociological Theory (3)

**Sociological Research Core Courses (8 credit hours)**
SOCY 3155 - Sociological Research Methods (4)
SOCY 4156 - Quantitative Analysis (4)
SOCY 4156L - Quantitative Analysis Lab (0)

**Concentration Courses (12 credit hours)**
Note: 9 out of 15 credit hours from the Restricted Elective Courses (3 credit hours) below and Concentration Courses (12 credit hours) combined must be SOCY courses at the 3000 level or above. No more than 6 credit hours of sociology elective and concentration courses at the 2000 level will be calculated in the completion of the major and concentration.

***Required Concentration Course (3 credit hours)***
SOCY 2171 - Social Problems (3)

***Elective Concentration Courses (9 credit hours)***
*Select 3 of the following:*
SOCY 2100 - Aging and the Lifecourse (3) (SL)
SOCY 2169 - Sociology of Health and Illness (3)
SOCY 3110 - American Minority Groups (3)
SOCY 3143 - Social Movements (3)
SOCY 3173 - Criminology (3)
SOCY 3250 - Political Sociology (3)
SOCY 4111 - Social Inequality (3)

SOCY 4112 - Sociology of Work (3)
SOCY 4122 - Immigration Policy (3)
SOCY 4125 - Urban Sociology (3)
SOCY 4135 - Sociology of Education (3)
SOCY 4168 - Sociology of Mental Health and Illness (3)
SOCY 4172 - Sociology of Deviant Behavior (3)
SOCY 4480 - Internship in Sociology (3 to 6)
Other SOCY courses with advisor approval

**Restricted Elective Course (3 credit hours)**
*Select one of the following:*
SOCY 2xxx-4xxx - Sociology Elective (3)

**Senior Seminar (3 credit hours)**
All Sociology majors, except for those students enrolled as Sociology Honors students, must complete a Senior Seminar course. Sociology Honors students are exempt from this requirement pending successful completion of SOCY 3799.

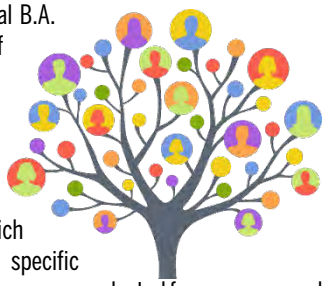
SOCY 4699 - Senior Seminar in Sociology (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements
All Major Courses and the required Concentration Course above must be completed with a grade of C or above. Majors are allowed a maximum of three attempts, which include any grade of D, F, or W, of any of the courses to fulfill their major requirements.

# Bachelor of Arts in Sociology *with Concentration in Sociological Social Psychology*



Students may complete the general B.A. in Sociology degree program or, if desired, complete a concentration in one of four substantive areas as part of the B.A. in Sociology degree. The concentration is optional. The concentration requires a total of 4 courses, in which one is a required course for the specific concentration and the other three courses are selected from an approved list of electives for the specific concentration. These courses will not add to the total number of hours required for the major, but will count toward the elective hours already required for the major.

## Admission Requirements
**Freshmen and Transfers**
- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

**Currently Enrolled Students**
- *Declaration of Major:* Change of Major form accepted year-round. See the Sociology Department website for more information.

## Degree Requirements
A Major in Sociology leading to the B.A. degree consists of a minimum of 32 credit hours of sociology courses with a minimum of 120 total credit hours, completion of general education requirements, and a minor or double major. All Sociological Theory Core courses, Sociological Research Methods, Quantitative Analysis, and Senior Seminar courses are restricted to majors and minors only. Some double majors may only have 31 credit hours of approved sociology courses with substitution of Research Methods courses: Psychology, Criminal Justice, and Political Science.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

The Sociology Department offers the SOCY 1501 (Global Theme–Sociological Approaches to Global Issues) and SOCY 1511 (Local Theme–Sociological Approaches to Local Issues) general education courses. These are open to all students within and outside the department.

**Foreign Language Requirement (0-8 credit hours)**
For details on required courses, refer to the College of Humanities & Earth and Social Sciences Foreign Language Requirement.

**Foundation Course (3 credit hours)**
SOCY 1101 - Introduction to Sociology (3)

**Sociological Theory Course (3 credit hours)**
*Select one of the following:*
SOCY 3153 - Sociological Theory (3)
SOCY 4153 - Contemporary Sociological Theory (3)

**Sociological Research Core Courses (8 credit hours)**
SOCY 3155 - Sociological Research Methods (4)
SOCY 4156 - Quantitative Analysis (4)
SOCY 4156L - Quantitative Analysis Lab (0)

**Concentration Courses (12 credit hours)**
Note: 9 out of 15 credit hours from the Restricted Elective Courses (3 credit hours) below and Concentration Courses (12 credit hours) combined must be SOCY courses at the 3000 level or above. No more than 6 credit hours of sociology elective and concentration courses at the 2000 level will be calculated in the completion of the major and concentration.

***Required Concentration Course (3 credit hours)***
SOCY 2161 - Sociological Social Psychology (3)

***Elective Concentration Courses (9 credit hours)***
*Select 3 of the following:*
SOCY 2112 - Popular Culture (3)

SOCY 3261 - Human Sexuality (3)
SOCY 3267 - Sociology of Dying, Death, and Bereavement (3)
SOCY 4172 - Sociology of Deviant Behavior (3)
SOCY 4263 - Group Processes (3)
SOCY 4265 - Social Psychology of Law (3)
Other SOCY courses with advisor approval

**Restricted Elective Course (3 credit hours)**
*Select one of the following:*
SOCY 2xxx-4xxx - Sociology Elective (3)

**Senior Seminar (3 credit hours)**
All Sociology majors, except for those students enrolled as Sociology Honors students, must complete a Senior Seminar course. Sociology Honors students are exempt from this requirement pending successful completion of SOCY 3799.

SOCY 4699 - Senior Seminar in Sociology (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

### Progression Requirements
All Major Courses and the required Concentration Course above must be completed with a grade of C or above. Majors are allowed a maximum of three attempts, which include any grade of D, F, or W, of any of the courses to fulfill their major requirements. A GPA of 2.5 must be earned in the concentration.

## Minor in Sociology
The Minor in Sociology requires the completion of 18 credit hours in sociology. The Department of Sociology will accept no more than 9 credit hours of courses counted toward another major or minor to also fulfill requirements for the Minor in Sociology.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

### Minor Requirements
**Required Course (3 credit hours)**
SOCY 1101 - Introduction to Sociology (3)

**Elective Courses (15 credit hours)**
SOCY 2xxx - Sociology Elective (3)
SOCY 2xxx - Sociology Elective (3)
SOCY 3xxx-4xxx - Sociology Elective (3)
SOCY 3xxx-4xxx - Sociology Elective (3)
SOCY 3xxx-4xxx - Sociology Elective (3)

### Minor Total = 18 Credit Hours

### Progression Requirements
All courses above must be passed with a grade of C or above. Students are allowed a maximum of three attempts, which include any grade of D, F, or W of any of the courses taken to fulfill their minor requirements.

## Honors Program in Sociology
The B.A. in Sociology with Honors is the highest accolade UNC Charlotte Sociology undergraduates can receive. The Honors Program aims to identify, encourage, nurture, and recognize students with exceptional analytical, creative, and communicative skills. The program stresses guided, but self-directed, independent study and each Honors student is assisted and evaluated by a faculty committee. The Sociology Honors program is great preparation for post baccalaureate/graduate training, and a stellar addition to a student's resume. This distinction attests to a candidate's exemplary grade point average in their major, the completion of honors coursework, as well as the successful defense of a substantial undergraduate thesis. Following successful completion, the honors notation will appear on a student's official transcript. For further information, interested students should consult with the Department Chair or Undergraduate Coordinator.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
Admission to the Honors Program may be initiated by the student or by any faculty member of the Department of Sociology on behalf of the student. Minimum eligibility criteria include:

- See University Admission Requirements
- An overall GPA of 3.2 or above; this standard must be maintained throughout the period of participation in the Honors Program
- A GPA of 3.5 or above in all Sociology courses; this standard must be maintained throughout the period of participation in the Honors Program
- Completion of at least 30, but not more than 90, credit hours at the time participation in the Honors Program begins (determined by the start date of the student's first Honors Program regularly scheduled course or independent study)
- Completion and submission of the Honors Program application form to the Undergraduate Coordinator

### Progression Requirements
Successful Honors Program candidates will complete at least 9 credit hours of Honors coursework (which count toward the 120 credit hours required for graduation). Specific requirements are:

- Complete at least one Honors course (3 credit hours), in addition to SOCY 3798 and SOCY 3799 (described below)
- Courses may be SOCY Honors courses or HONR courses that are open to departmental honors students
- Students must take SOCY 3798 (Preliminary Honors Research) to conduct preliminary research and writing
    - Students must submit a comprehensive report of their progress in the preliminary research and must take SOCY 3799 the following semester to complete and defend their thesis

- Complete SOCY 3799 (Honors Thesis) based on a proposal approved by the student's Honors Committee; the thesis must meet the following criteria:
    - An original research project examining a sociological issue
    - Include both secondary and primary research
    - Follow traditional scholarly research structure with chapters appropriate to the research method and context
    - At least 25 and not more than 75 pages; double-spaced, 12-point font, 1-inch margins
    - Compliant with an appropriate scholarly writing style
    - Orally defended
    - In accordance with the policies of the Honors College, A is the required grade for the Honors Thesis Research Course
- Student grades in Honors coursework must be 3. 5 or above.
- Complete the Application to Candidacy process for graduating with honors, as directed by the Honors College

Students in the Honors Program are not required to complete the Senior Seminar in Sociology (SOCY 4699).

# Early Entry: Master of Arts in Sociology

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree. The Early Entry Program for the M.A. in Sociology leads to completion of all requirements for the B.A. and M.A. degrees in only five academic years and one or two summers. In this program, students complete requirements for the B.A. degree and begin graduate coursework and research for the M.A. degree in their Senior, or fourth, year.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Minimum 3.5 GPA in SOCY courses
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Department of Sociology and approved by the Graduate School

*Note: Standardized test scores (e.g., GRE, GMAT, MAT) are optional, but not required.*

## Progression Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA to remain in the program; minimum 3.0 Junior/Senior GPA at the end of the B.A. degree
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree.

## Special Policies or Requirements

Up to 6 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 6 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# The Klein *College of* Science

# The Klein College of Science

science.charlotte.edu

The Klein College of Science (KCOS) was established in 2023, with Founding Dean Bernadette Donovan-Merkert, as part of a strategic reorganization to enhance the focus on scientific disciplines at UNC Charlotte. It is a community of faculty, staff, and students who are shaping the future through science. Science is at the heart of everything we do, including innovative research, inclusive teaching and mentoring, engagement with both local and global communities, leadership in professional organizations, entrepreneurship, and developing the leaders of tomorrow.

The college encompasses the departments of Biological Sciences, Chemistry, Mathematics and Statistics, and Physics and Optical Science, as well as the Botanical Gardens and McMillan Greenhouse. The college is committed to fostering a collaborative community that supports student success in science and mathematics, even for those whose majors lie outside these fields. The Klein College of Science is home to more than 2,000 undergraduate and graduate majors and also plays a crucial role in providing general education requirements for all UNC Charlotte students with specialized science and mathematics training.

Although faculty within the College are committed to departmentally based programs, increased emphasis is being placed on providing strong interdisciplinary programs. The College also strives to promote intercultural understanding through student exchanges and travel opportunities.

### Departments

The Klein College of Science consists of these departments/offices:

- Department of Biological Sciences
- Department of Chemistry
- Department of Mathematics and Statistics
- Ishwar Aggarwal Department of Physics and Optical Science

## Degree Programs

#### Majors

- Bachelor of Arts in Biological Sciences
- Bachelor of Science in Biological Sciences
- Bachelor of Arts in Chemistry
- Bachelor of Science in Chemistry
- Bachelor of Arts in Mathematics
- Bachelor of Science in Mathematics
- Bachelor of Arts in Mathematics for Business
- Bachelor of Science in Mathematics for Business
- Bachelor of Arts in Physics
- Bachelor of Science in Physics

#### Minors

- Actuarial Mathematics
- Biology
- Biotechnology
- Chemistry
- Mathematics
- Physics
- Statistics

#### Undergraduate Certificates

- Actuarial Studies
- Innovative Thinking and Problem Solving

## Degree Requirements

#### General Education Requirements

Since all students entering the University must meet the same General Education requirements regardless of major, it is appropriate to concentrate on the completion of those requirements before committing to a specific major. Undeclared students have time to enroll in courses in several disciplines, which allows them to make a more informed judgment about future career decisions. Academic advisors have a broad working experience with the requirements for majors and offer assistance as students search for the education choice best suited to their individual needs.

#### Degree Programs/Majors and Minors Requirements

Students in the Klein College of Science must satisfy the requirements for the degree program(s) in which they are enrolled. Students should consult with their chosen department to make certain they fully understand all degree requirements. Many students also pursue a second degree or even a minor(s) in

conjunction with their major degree program. Students should be familiar with the requirements of any minor program of study they attempt to complete.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

## Advising

The Klein College of Science offers academic advising for students who have enrolled in a major or pre-major within the college. Professional advisors are available to provide guidance on both major and/or pre-major requirements, as well as General Education requirements. Faculty mentors are available to provide guidance on a variety of other areas including undergraduate research and post-graduation preparation and planning,

The professional advising team is dedicated to establishing relationships with all KCOS majors and pre-majors to help them achieve their academic, personal, and professional goals. The advisors are also dedicated to connecting students to enrichment opportunities within the departments as well as across campus and beyond.

## Experiential Learning and Service Opportunities

The college aims to inspire innovative thinking in undergraduate students and contribute to the development of creative problem solvers, innovative leaders, and engaged citizens through an initiative called LEADS. Students are also encouraged to participate in undergraduate research and/or professional work experiences in support of their academic and career development through cooperative education, departmental undergraduate research, community-engaged research and service, and internship programs offered to them. The partnership with the University Career Center expands experiential learning offerings so more students graduate with career-related experience. The Office of Undergraduate Research provides support to assist students with finding undergraduate research opportunities both on and off campus as well as provides professional development sessions on a variety of areas related to research.

leads.charlotte.edu

LEADS is an innovative, transdisciplinary program designed to help students in the College of Science grow into critical thinkers, imaginative leaders, and engaged citizens who are well-prepared for their future careers.

With the opportunities provided through LEADS, students have access to unique classes that complement their major, enhance their personal and professional development, and encourage the development of an entrepreneurial mindset. LEADS classes focus on applied, experiential, and interdisciplinary learning, providing the opportunity to gain meaningful experience and develop competencies transferable to any setting. There are multiple points of entry for LEADS, and students have the flexibility to choose from the LEADS options that best meet their needs and interests. Participation in LEADS positions students to be well prepared for wherever their next steps take them.

LEADS provides programming that:

- fosters learning across disciplines
- embeds experiential learning opportunities into academic courses, allowing students to gain valuable experience
- encourages students to develop new lenses through which to view complex problems
- cultivates development of critical competencies and an entrepreneurial mindset
- supports personal and professional development
- prepares students for their next step after UNC Charlotte

LEADS is open to new freshmen, continuing students, and transfer students.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

# Undergraduate Certificate in Innovative Thinking and Problem Solving

The Undergraduate Certificate in Innovative Thinking and Problem Solving is offered by the LEADS program within the Klein College of Science. The curriculum utilizes a "learn by doing" approach that complements any academic major and provides students with an opportunity to build skills, experience, and connections. Students who complete the LEADS certificate in Innovative Thinking and Problem Solving are well prepared for their career or graduate/professional studies. The certificate may be pursued concurrently with any undergraduate degree programs at UNC Charlotte.

All program-level Admissions and Progression Requirements are in addition to the University of North Carolina at Charlotte Admission Requirements.

### Admission Requirements

### Current UNC Charlotte Undergraduate Students

To be admitted into the LEADS Certificate in Innovative Thinking and Problem Solving, students must meet the general University requirements for admission into Undergraduate Certificate Programs.

These University level requirements include:

- See University Admission Requirements
- An undergraduate degree or admission to an undergraduate degree program at UNC Charlotte
- An application submitted to the Registrar if applicant already holds an undergraduate degree, or to the department offering the program if applicant does not hold an undergraduate degree
- Official transcripts for previous degree(s) and coursework
- A Declaration of Program form (Change of Major/Minor form) listing the certificate program

### Certificate Requirements

### LEADS Foundation Course (1 credit hours)

LEAD 2600 - LEADS Foundations (1)

### LEADS Core Courses (6 credit hours)

LEAD 3000 - LEADS (1 to 4)
LEAD 3410 - LEADS Course-Based Internship Experience (3)

### LEADS Elective Courses (6 credit hours)

*Fulfill remaining credit hours from any of the following options:*
LEAD 3000 - LEADS (1 to 4)
LEAD 3010 - LEADS Topics in Innovative Thinking (1 to 3)
LEAD 3020 - LEADS Topics in Professionalism (1 to 3)
LEAD 3030 - LEADS Topics in Leadership (1 to 3)
LEAD 3040 - LEADS Topics in Life Design (1 to 3)
LEAD 3410 - LEADS Course-Based Internship Experience (3)
LEAD 3800 - LEADS Special Projects (1 to 3)

*Notes:*

- *LEAD 3000, LEAD 3010, LEAD 3020, LEAD 3030, LEAD 3040, LEAD 3410, and LEAD 3800 may be repeated for credit with change in topics.*
- *If a student repeats a LEADS core course due to a change in topic, the second successful completion of the course may count towards the LEADS elective category.*
- *LEADS elective credit may also be earned through departmental credits for LEADS approved courses.*

### Certificate Total = 13 Credit Hours

### Progression Requirements

Students must earn grades of C or above in all LEADS courses. Students must earn a grade of B or above in LEAD 3410.

# Department of Biological Sciences

biology.charlotte.edu

## Undergraduate Programs

- B.A. in Biology
  - Honors Program
- B.S. in Biology
  - Honors Program
- Minor in Biology
- Minor in Biotechnology
- Early Entry: M.S. in Biology

We are in what has been called the "Century of Biology," and Biological Sciences is one of the largest majors at UNC Charlotte. The program prepares students for a growing number of careers and professional and graduate programs in medicine and other allied health professions, dental and veterinary medicine, biotechnology, environmental management, conservation, research, science journalism, education, and more.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

### Undergraduate Programs

The Department of Biological Sciences' B.A. and B.S. programs provide all students with a broad introduction to cell biology, ecology, evolution, genetics, and physiology. Both B.A. and B.S. programs require the same core curriculum of biology courses. The B.A. degree provides a foundation in the basic principles of biology with more flexibility to study other areas of interest as preparation for many careers, such as teaching, natural resource management, science journalism, law, and business. The B.S. degree provides more in-depth focus in science for more opportunity in academic or professional science programs, such as academic or government research or medical school. For elective courses, students collaborate with their advisor to choose topics that interest them and provide a broad range of knowledge and skills to serve in the future. Throughout the curriculum, faculty provide hands-on research opportunities through the core labs, individualized research courses, internships, and the honors program.

The Minor in Biology is offered for students who desire some experience in biology as an adjunct to their major. The Minor in Biotechnology provides an interdisciplinary curriculum with an internship for students interested in this emerging field.

### Graduate Programs

The department offers two Graduate Certificate programs; early entry Master's, non-thesis-based Master's and thesis-based Master's programs; and an interdisciplinary Ph.D. program in Biological Sciences. For details, see the department website and the *Graduate Catalog*.

## Bachelor of Arts in Biology

The B.A. in Biology is a science degree intended to provide a comprehensive biological background but with flexibility in the curriculum to permit students to take more courses in areas of interest other than biology. This is especially good for students interested in teaching in secondary education (junior high and high school), or whose careers may be other than in an area of biology.

### Admission Requirements

#### Freshmen

- See University Admission Requirements
- *Minimum GPA:* 2.0. Students with GPA below 2.0 should consult with departmental advisor. Students with prior credit earned at UNC Charlotte must have a minimum overall and a Biology GPA of 2.0.
- *Pre-Major/Prerequisite Courses*: Complete the following with minimum grades of C:
  - BIOL 2120 and BIOL 2120L or BIOL 2130 and BIOL 2130L
  - CHEM 1251
  - CHEM 1251L

#### Transfers

- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Pre-Major/Prerequisite Courses:* All incoming students begin as Pre-Biology and declare upper-division once requirements are met.
- *Transferable Credit Hours*: 24

#### Currently Enrolled Students

- *Declaration of Major:* Students are eligible to declare a Major in Biology when the above courses are completed with a minimum grade of C.

### Degree Requirements

A Major in Biology leading to the B.A. degree requires a total of 120 credit hours, including 32 credit hours of BIOL courses. At least 12 credit hours of BIOL courses must be taken at UNC Charlotte. Biology

courses at the 1000-level do not count toward major-level credit.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information. All Biology majors must take three hours of Writing Intensive coursework in Biology at UNC Charlotte.

**Major Courses (32 credit hours)**
***Foundation Courses (18 credit hours)***
BIOL 2120 - General Biology I (3)
BIOL 2130 - General Biology II (3)
BIOL 2120L – General Biology I Laboratory (1)
and BIOL 2130L – General Biology II Laboratory (1)
BIOL 3111 - Cell Biology (3)
BIOL 3111L - Cell Biology Laboratory (1)
BIOL 3144 - Ecology (3)
BIOL 3166 - Genetics (3)

***Physiology Course (3 credit hours)***
*Select one of the following:*
BIOL 3272 - Plant Physiology (3)
BIOL 3273 - Animal Physiology (3)
BIOL 4272 - Comparative Animal Physiology (3)

***Evolution-Oriented Course (3-4 credit hours)***
*Select one of the following:*
BIOL 3000 - Special Topics in Biology (3) *(may include evolution-oriented topics)*
BIOL 3222 - General Botany (3)
BIOL 3231 - Invertebrate Zoology (4)
BIOL 3233 - Vertebrate Zoology (4)
BIOL 3235 - Biology of Insects (3)
BIOL 3236 - General Zoology (3)
BIOL 4000 - Special Topics in Biology (3) *(may include evolution-oriented topics)*
BIOL 4040 - Stem Cells (3)
BIOL 4111 - Evolution (3)
BIOL 4235 - Mammalogy (4)
BIOL 4242 - Biology of Birds (3)
BIOL 4243 - Animal Behavior (3)
BIOL 4244 - Conservation Biology (3)
BIOL 4260 - Population Genetics (3)
BIOL 4272 - Comparative Animal Physiology (3)
BIOL 4283 - Developmental Biology (3)
BIOL 4284 - Eukaryotic Microbiology (4)
BIOL 4293 - Comparative Vertebrate Anatomy (4)

***Laboratory Courses (minimum 2 credit hours)***
*Select two of the following:*
BIOL 2274L - Human Anatomy and Physiology II Laboratory (1)
BIOL 3144L - Ecology Laboratory (1)
BIOL 3166L - Genetics Laboratory (1)
BIOL 3202L - Horticulture Laboratory (1)
BIOL 3222L - General Botany Laboratory (1)
BIOL 3229 - Field Botany (3)
BIOL 3231 - Invertebrate Zoology (4)
BIOL 3233 - Vertebrate Zoology (4)
BIOL 3234 - Field Entomology (3)
BIOL 3236L - General Zoology Laboratory (1)
BIOL 3244 - Field Ecology (3)
BIOL 3273L - Animal Physiology Laboratory (1)
BIOL 3900 - Undergraduate Research (1 to 3)
BIOL 4121 - Biometry (4)
BIOL 4144 - Advanced Ecology (4)
BIOL 4168 - Recombinant DNA Techniques (4)
BIOL 4235 - Mammalogy (4)
BIOL 4242L - Biology of Birds Laboratory (1)
BIOL 4244L - Conservation Biology Laboratory (1)
BIOL 4250L - Microbiology Laboratory (1)
BIOL 4256L - Pathogenic Bacteriology Laboratory (1)
BIOL 4257L - Microbial Physiology and Metabolism Lab (1)
BIOL 4279L - Neurobiology Laboratory (1)
BIOL 4284 - Eukaryotic Microbiology (4)
BIOL 4293 - Comparative Vertebrate Anatomy (4)
BIOL 4700 - Honors Research I (3)
BIOL 4701 - Honors Research II (3)
BINF 3201 - Genomic Methods (4)

***Additional Biology Courses (5-6 credit hours)***
Select additional credit hours of Biology courses to reach 32 credit hours, excluding BIOL 1110, BIOL 1110L, BIOL 1115, BIOL 2259, BIOL 2259L, BIOL 2273, BIOL 2273L, and BIOL 3271. Either CHEM 3165 or CHEM 4165 (but not both) may also count toward this requirement.

**Chemistry Courses (8 credit hours)**
CHEM 1251 - General Chemistry I (3)
CHEM 1251L - General Chemistry I Laboratory (1)
CHEM 1252 - General Chemistry II (3)
CHEM 1252L - General Chemistry II Laboratory (1)

**Related Courses (6-7 credit hours)**
MATH 1101 – College Algebra with Workshop (4)
or MATH 1103 - Precalculus Mathematics for Science and Engineering (3 to 5)
or MATH 1120 - Calculus (3)
or MATH 1241 - Calculus I (3)
STAT 1220 - Elements of Statistics I (BUSN) (3)
or STAT 1221 - Elements of Statistics I (3)
or STAT 1222 - Introduction to Statistics (3)
or BINF 3121 - Statistics for Bioinformatics (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements
Majors must earn a C or above in BIOL 2120 and BIOL 2130 before taking other Biology courses. Any student who earns less than a C may retake the course once, for a total of two attempts. After twice receiving a grade below C in BIOL 2120, BIOL 2130, or BIOL 2140L, students may

not enroll in the course again and are ineligible for continuation in bachelor degree programs in Biology. Additionally, students who have two successive semesters with a cumulative GPA in Biology of less than 2.0 are ineligible for continuation in bachelor degree programs in Biology.

# Bachelor of Science in Biology

The B.S. in Biology is recommended for students planning a career in biology and for those planning to attend graduate school for a Master's or Ph.D. degree. B.S. students have the option of designing their course of study to emphasize an area they are interested in by selecting specific additional biology courses. Planning should be done in consultation with an academic advisor.

## Admission Requirements

### Freshmen

- See University Admission Requirements
- *Minimum GPA:* 2.0. Students with GPA below 2.0 should consult with departmental advisor. Students with prior credit earned at UNC Charlotte must have a minimum overall and a Biology GPA of 2.0.
- *Pre-Major/Prerequisite Courses*: Complete the following with minimum grades of C:
    - BIOL 2120 and BIOL 2120L or BIOL 2130 and BIOL 2130L
    - CHEM 1251
    - CHEM 1251L

### Transfers

- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Pre-Major/Prerequisite Courses:* All incoming students begin as Pre Biology and declare upper-division once requirements are met.
- *Transferable Credit Hours*: 24

### Currently Enrolled Students

- *Declaration of Major:* Students are eligible to declare a Major in Biology when the above courses are completed with minimum grades of C.

## Degree Requirements

The B.S. in Biology requires a total of 120 credit hours. In addition to the 32 credit hours of BIOL courses required for the B.A. in Biology degree, students working toward the B.S. degree are required to take additional credit hours in BIOL courses to reach a minimum of 44 credit hours.

### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

### Major Courses (44 credit hours)

***Foundation Courses (18 credit hours)***

BIOL 2120 - General Biology I (3)
BIOL 2130 - General Biology II (3)
BIOL 2120L – General Biology I Laboratory (1)
and BIOL 2130L – General Biology II Laboratory (1)
BIOL 3111 - Cell Biology (3)
BIOL 3111L - Cell Biology Laboratory (1)
BIOL 3144 - Ecology (3)
BIOL 3166 - Genetics (3)

***Physiology Course (3 credit hours)***

*Select one of the following:*
BIOL 3272 - Plant Physiology (3)
BIOL 3273 - Animal Physiology (3)
BIOL 4272 - Comparative Animal Physiology (3)

***Evolution-Oriented Course (3-4 credit hours)***

*Select one of the following:*
BIOL 3000 - Special Topics in Biology (3) *(may include evolution-oriented topics)*
BIOL 3222 - General Botany (3)
BIOL 3231 - Invertebrate Zoology (4)
BIOL 3233 - Vertebrate Zoology (4)
BIOL 3235 - Biology of Insects (3)
BIOL 3236 - General Zoology (3)
BIOL 4000 - Special Topics in Biology (3) *(may include evolution-oriented topics)*
BIOL 4040 - Stem Cells (3)
BIOL 4111 - Evolution (3)
BIOL 4235 - Mammalogy (4)
BIOL 4242 - Biology of Birds (3)
BIOL 4243 - Animal Behavior (3)
BIOL 4244 - Conservation Biology (3)
BIOL 4260 - Population Genetics (3)
BIOL 4272 - Comparative Animal Physiology (3)
BIOL 4283 - Developmental Biology (3)
BIOL 4284 - Eukaryotic Microbiology (4)
BIOL 4293 - Comparative Vertebrate Anatomy (4)

***Laboratory Courses (minimum 3 credit hours)***

*Select three of the following:*
BIOL 2274L - Human Anatomy and Physiology II Laboratory (1)
BIOL 3144L - Ecology Laboratory (1)
BIOL 3166L - Genetics Laboratory (1)
BINF 3201 - Genomic Methods (4)
BIOL 3202L - Horticulture Laboratory (1)
BIOL 3222L - General Botany Laboratory (1)
BIOL 3229 - Field Botany (3)
BIOL 3231 - Invertebrate Zoology (4)
BIOL 3233 - Vertebrate Zoology (4)
BIOL 3234 - Field Entomology (3)
BIOL 3236L - General Zoology Laboratory (1)
BIOL 3244 - Field Ecology (3)
BIOL 3272L - Plant Physiology Laboratory (1)
BIOL 3273L - Animal Physiology Laboratory (1)
BIOL 3900 - Undergraduate Research (1 to 3)
BIOL 4121 - Biometry (4)
BIOL 4144 - Advanced Ecology (4)
BIOL 4168 - Recombinant DNA Techniques (4)
BIOL 4235 - Mammalogy (4)
BIOL 4242L - Biology of Birds Laboratory (1)
BIOL 4244L - Conservation Biology Laboratory (1)

BIOL 4250L - Microbiology Laboratory (1)
BIOL 4256L - Pathogenic Bacteriology Laboratory (1)
BIOL 4257L - Microbial Physiology and Metabolism Lab (1)
BIOL 4279L - Neurobiology Laboratory (1)
BIOL 4284 - Eukaryotic Microbiology (4)
BIOL 4293 - Comparative Vertebrate Anatomy (4)
BIOL 4700 - Honors Research I (3)
BIOL 4701 - Honors Research II (3)

***Additional Biology Courses***

Select additional credit hours of Biology courses to reach 44 credit hours, excluding BIOL 1110, BIOL 1110L, BIOL 1115, BIOL 2259, BIOL 2259L, BIOL 2273, BIOL 2273L, and BIOL 3271. Either CHEM 3165 or CHEM 4165 (but not both) may also count toward this requirement.

**Chemistry Courses (12 credit hours)**

In addition to CHEM 1251, CHEM 1251L, CHEM 1252, and CHEM 1252L required for the B. A. in Biology degree, students working toward the B.S. degree are required to take the following Chemistry courses.

CHEM 2131 - Organic Chemistry I (3)
CHEM 2131L - Organic Chemistry I Lab (1)

**Related Courses (14 credit hours)**

PHYS 1101 - Introductory Physics I (3)
or PHYS 2101 Physics for Science and Engineering I (3)
PHYS 1101L - Introductory Physics I Laboratory (1)
or PHYS 2101L - Physics for Science and Engineering I Laboratory (1)
PHYS 1102 - Introductory Physics II (3)
or PHYS 2102 - Physics for Science and Engineering II (3)
PHYS 1102L - Introductory Physics II Laboratory (1)
or PHYS 2102L - Physics for Science and Engineering II Laboratory (1)
MATH 1120 - Calculus (3)
or MATH 1241 - Calculus I (3)
or equivalent Calculus course
STAT 1220 - Elements of Statistics I (BUSN) (3)
or STAT 1221 - Elements of Statistics I (3)
or STAT 1222 - Introduction to Statistics (3)
or BINF 3121 - Statistics for Bioinformatics (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements

Majors must earn a C or above in BIOL 2120 and BIOL 2130 before taking other Biology courses. Any student who earns less than a C may retake the course once, for a total of two attempts. After twice receiving a grade below C in BIOL 2120, BIOL 2130, or BIOL 2140L, students may not enroll in the course again and are ineligible for continuation in bachelor degree programs in Biology. Additionally, students who have two successive semesters with a cumulative GPA in Biology of less than 2.0 are ineligible for continuation in bachelor degree programs in Biology.

# Minor in Biology

A Minor in Biology requires 18 credit hours in biology courses. Students are responsible for meeting all Biology course prerequisites and corequisites. At least 6 credit hours of BIOL courses must be taken at UNC Charlotte.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

See University Admission Requirements

## Minor Requirements

Select one of the two options to complete the Minor in Biology.

### Option 1

**Foundation Courses (8 credit hours)**

BIOL 2120 - General Biology I (3)
BIOL 2130 - General Biology II (3)
BIOL 2140L - General Biology Lab (2)
or BIOL 2120L – General Biology I Laboratory (1)
and BIOL 2130L – General Biology II Laboratory (1)

**Restricted Elective Courses (4-8 credit hours)**

***Lab Courses***

*Select at least one of the following:*

BIOL 2259L - Fundamentals of Microbiology Laboratory (1)
BIOL 2273L - Human Anatomy and Physiology Laboratory (1)
BIOL 2274L - Human Anatomy and Physiology II Laboratory (1)
BIOL 3111L - Cell Biology Laboratory (1)
BIOL 3144L - Ecology Laboratory (1)
BIOL 3166L - Genetics Laboratory (1)
BIOL 3202L - Horticulture Laboratory (1)
BIOL 3222L - General Botany Laboratory (1)
BIOL 3229 - Field Botany (3)
BIOL 3233 - Vertebrate Zoology (4)
BIOL 3234 - Field Entomology (3)
BIOL 3236L - General Zoology Laboratory (1)
BIOL 3244 - Field Ecology (3)
BIOL 3272L - Plant Physiology Laboratory (1)
BIOL 3273L - Animal Physiology Laboratory (1)
BIOL 4121 - Biometry (4)
BIOL 4144 - Advanced Ecology (4)
BIOL 4168 - Recombinant DNA Techniques (4)
BIOL 4235 - Mammalogy (4)
BIOL 4242L - Biology of Birds Laboratory (1)
BIOL 4244L - Conservation Biology Laboratory (1)
BIOL 4250L - Microbiology Laboratory (1)
BIOL 4256L - Pathogenic Bacteriology Laboratory (1)
BIOL 4257L - Microbial Physiology and Metabolism Lab (1)
BIOL 4279L - Neurobiology Laboratory (1)
BIOL 4293 - Comparative Vertebrate Anatomy (4)

***Lecture Course Above 3000-Level***

*Select at least one of the following:*

BIOL 3000 - Special Topics in Biology (1 to 4)
BIOL 3144 - Ecology (3)

BIOL 3202 - Horticulture (3)
BIOL 3111 - Cell Biology (3)
BIOL 3161 - Introduction to Biotechnology (3)
BIOL 3166 - Genetics (3)
BIOL 3215 - Economic Botany (3)
BIOL 3222 - General Botany (3)
BIOL 3229 - Field Botany (3)
BIOL 3231 - Invertebrate Zoology (4)
BIOL 3233 - Vertebrate Zoology (4)
BIOL 3234 - Field Entomology (3)
BIOL 3235 - Biology of Insects (3)
BIOL 3236 - General Zoology (3)
BIOL 3271 - Human Body in Health and Disease (3)
BIOL 3272 - Plant Physiology (3)
BIOL 3273 - Animal Physiology (3)
BIOL 4000 - Special Topics in Biology (1 to 4)
BIOL 4121 - Biometry (4)
BIOL 4144 - Advanced Ecology (4)
BIOL 4168 - Recombinant DNA Techniques (4)
BIOL 4233 - Parasitology (3)
BIOL 4235 - Mammalogy (4)
BIOL 4242 - Biology of Birds (3)
BIOL 4243 - Animal Behavior (3)
BIOL 4244 - Conservation Biology (3)
BIOL 4245 - Marine Biology (3)
BIOL 4250 - Microbiology (3)
BIOL 4255 - Bacterial Genetics (3)
BIOL 4256 - Pathogenic Bacteriology (3)
BIOL 4257 - Microbial Physiology and Metabolism (3)
BIOL 4279 - Neurobiology (3)
BIOL 4293 - Comparative Vertebrate Anatomy (4)

**Unrestricted Elective Courses**
Select any additional BIOL courses, excluding BIOL 1110, BIOL 1110L, and BIOL 1115, to meet the credit hour requirements for the Minor in Biology. Either CHEM 3165 or CHEM 4165 (but not both) may also count toward the Minor in Biology.

## Option 2

**Foundation Courses (7 credit hours)**
BIOL 1110 - Principles of Biology I (3)
BIOL 1115 - Principles of Biology II (3)
BIOL 1110L - Principles of Biology I Lab (1)

**Restricted Elective Courses (4-8 credit hours)**
***Lab Courses***
*Select at least one of the following:*
BIOL 2259L - Fundamentals of Microbiology Laboratory (1)
BIOL 2273L - Human Anatomy and Physiology Laboratory (1)
BIOL 2274L - Human Anatomy and Physiology II Laboratory (1)
BIOL 3111L - Cell Biology Laboratory (1)
BIOL 3144L - Ecology Laboratory (1)
BIOL 3166L - Genetics Laboratory (1)
BIOL 3202L - Horticulture Laboratory (1)
BIOL 3222L - General Botany Laboratory (1)
BIOL 3229 - Field Botany (3)
BIOL 3233 - Vertebrate Zoology (4)
BIOL 3234 - Field Entomology (3)
BIOL 3236L - General Zoology Laboratory (1)
BIOL 3244 - Field Ecology (3)
BIOL 3272L - Plant Physiology Laboratory (1)
BIOL 3273L - Animal Physiology Laboratory (1)
BIOL 4121 - Biometry (4)
BIOL 4144 - Advanced Ecology (4)
BIOL 4168 - Recombinant DNA Techniques (4)
BIOL 4235 - Mammalogy (4)
BIOL 4242L - Biology of Birds Laboratory (1)
BIOL 4244L - Conservation Biology Laboratory (1)
BIOL 4250L - Microbiology Laboratory (1)
BIOL 4256L - Pathogenic Bacteriology Laboratory (1)
BIOL 4257L - Microbial Physiology and Metabolism Lab (1)
BIOL 4279L - Neurobiology Laboratory (1)
BIOL 4293 - Comparative Vertebrate Anatomy (4)

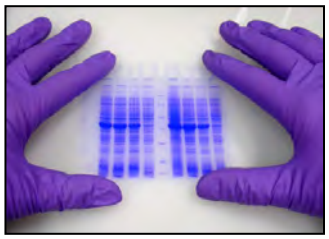
***Lecture Course Above 3000-Level***
*Select at least one of the following:*
BIOL 3000 - Special Topics in Biology (1 to 4)
BIOL 3111 - Cell Biology (3)
BIOL 3144 - Ecology (3)
BIOL 3161 - Introduction to Biotechnology (3)
BIOL 3166 - Genetics (3)
BIOL 3202 - Horticulture (3)
BIOL 3215 - Economic Botany (3)
BIOL 3222 - General Botany (3)
BIOL 3229 - Field Botany (3)
BIOL 3231 - Invertebrate Zoology (4)
BIOL 3233 - Vertebrate Zoology (4)
BIOL 3234 - Field Entomology (3)
BIOL 3235 - Biology of Insects (3)
BIOL 3236 - General Zoology (3)
BIOL 3271 - Human Body in Health and Disease (3)
BIOL 3272 - Plant Physiology (3)
BIOL 3273 - Animal Physiology (3)
BIOL 4000 - Special Topics in Biology (1 to 4)
BIOL 4121 - Biometry (4)
BIOL 4144 - Advanced Ecology (4)
BIOL 4168 - Recombinant DNA Techniques (4)
BIOL 4233 - Parasitology (3)
BIOL 4235 - Mammalogy (4)
BIOL 4242 - Biology of Birds (3)
BIOL 4243 - Animal Behavior (3)
BIOL 4244 - Conservation Biology (3)
BIOL 4245 - Marine Biology (3)
BIOL 4250 - Microbiology (3)
BIOL 4255 - Bacterial Genetics (3)
BIOL 4256 - Pathogenic Bacteriology (3)
BIOL 4257 - Microbial Physiology and Metabolism (3)
BIOL 4279 - Neurobiology (3)
BIOL 4293 - Comparative Vertebrate Anatomy (4)

**Unrestricted Elective Courses (3-7 credit hours)**
Select any additional BIOL courses, excluding BIOL 2120, BIOL 2130, and BIOL 2140L, to meet the credit hour requirements for the Minor in Biology. Either CHEM 3165 or CHEM 4165 (but not both) may also count toward the Minor in Biology.

## Minor Total = 18 Credit Hours

### Progression Requirements
A GPA of at least 2.0 in the minor is required.

## Minor in Biotechnology
The Minor in Biotechnology program is an interdisciplinary program housed within the Klein College of Science and is designed for students interested in careers in the biotechnology field. To obtain a Minor in Biotechnology, students complete a series of required and optional interdisciplinary courses offered in the Departments of Biological Sciences, Chemistry, and Bioinformatics and Genomics, as well as complete a biotechnology-based internship in a regional government, industry, or academic laboratory. Students have some flexibility to choose courses that reflect their specific area of emphasis within the biotechnology field.



### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

Students declare their intention to obtain this minor by meeting with the Biotechnology Minor Program Coordinator, typically at the beginning of their Junior year. A maximum of 9 credit hours applied towards a major degree program can also be applied towards the Minor in Biotechnology. The number of participating students is determined by the number of available internship positions.

### Minor Requirements (for Biology majors)
The Minor in Biotechnology requires the completion of a minimum of 18 credit hours.

**Required Courses**
BIOL 4405 Internship/Laboratory Research (1 to 3)
or BIOL 4701 - Honors Research II (3)

BIOL 4162 - Advanced Biotechnology I (3)
or BIOL 4171 - Cell Physiology (3)
or BIOL 4199 - Molecular Biology (3)

**Elective Courses**
***Group 1***
*Select two or more of the following:*
BIOL 3161 - Introduction to Biotechnology (3)
BIOL 4000 - Special Topics in Biology (3) *(Advanced Immunology Technology)*
BIOL 4000 - Special Topics in Biology (3) *(Advanced Physiology)*
BIOL 4000 - Special Topics in Biology (3) *(Ecotoxicology)*
BIOL 4162 - Advanced Biotechnology I (3)
BIOL 4163 - Advanced Biotechnology II (3)
BIOL 4168 - Recombinant DNA Techniques (4)
BIOL 4171 - Cell Physiology (3)
BIOL 4199 - Molecular Biology (3)
BIOL 4244 - Conservation Biology (3)
BIOL 4250 - Microbiology (3)
BIOL 4251 - Immunology (3)
BIOL 4255 - Bacterial Genetics (3)
BIOL 4256 - Pathogenic Bacteriology (3)
BIOL 4257 - Microbial Physiology and Metabolism (3)
BIOL 4259 - Virology (3)
CHEM 4165 - Principles of Biochemistry I (3)

***Group 2***
*Select at least one of the following:*
BINF 1101 - Introduction to Bioinformatics and Genomics (4)
BINF 4171 - Business of Biotechnology (3)
BINF 4191 - Life Sciences and the Law (3)
CHEM 4166 - Principles of Biochemistry II (3)
CHEM 4171 - Biochemical Instrumentation (4)

### Minor Requirements (for all other majors)
The Minor in Biotechnology requires the completion of a minimum of 18 credit hours.

**Required Courses**
BIOL 3161 - Introduction to Biotechnology (3)
BIOL 4405 - Internship/Laboratory Research (1 to 3)

**Elective Courses**
***Group 1***
*Select three of the following:*
BIOL 4000 - Special Topics in Biology (1 to 4) *(DNA Profiling)*
BIOL 4162 - Advanced Biotechnology I (3)
BIOL 4163 - Advanced Biotechnology II (3)
BIOL 4168 - Recombinant DNA Techniques (4)
BIOL 4199 - Molecular Biology (3)
BIOL 4244 - Conservation Biology (3)
BIOL 4250 - Microbiology (3)
BIOL 4251 - Immunology (3)
BIOL 4255 - Bacterial Genetics (3)
BIOL 4259 - Virology (3)
CHEM 4165 - Principles of Biochemistry I (3)
and CHEM 4165L - Principles of Biochemistry I Laboratory (1)

***Group 2***
*Select one of the following:*
BINF 1101 - Introduction to Bioinformatics and Genomics (4)
BINF 4171 - Business of Biotechnology (3)
BINF 4191 - Life Sciences and the Law (3)
CHEM 4166 - Principles of Biochemistry II (3)
CHEM 4171 - Biochemical Instrumentation (4)

### Minor Total = 18 Credit Hours

### Progression Requirements
Students must have at least an overall GPA of 2.0 and a 2.0 GPA in their major to participate in the program.

# Honors Program in Biology

The Honors Program is a research program for students majoring in Biology. Students interested in this program and who meet the admissions requirements should contact the Honors Coordinator in the Department of Biological Sciences.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

See University Admission Requirements

High potential students are invited to participate in the program generally during the Junior year by the Department Honors Committee. High potential students with a 3.2 overall GPA, a 3.4 GPA in BIOL courses and who are completing or have completed BIOL 3111 with a grade of B or above are preferred. Enrolled students will select their Honors advisor and compose a supervisory committee.

## Currently Enrolled Students

To graduate with Honors, students must complete the following courses with grades of A:

BIOL 4601 Honors Seminar (2)
BIOL 4700 Honors Research I (3)
BIOL 4701 Honors Research II (3)

## Progression Requirements

A cumulative GPA of 3.2 and a GPA of 3.4 or above in BIOL courses must be maintained. An Honors thesis is required, and the student must present the results of their project in an appropriate forum. The honors notation will appear on a student's official transcript.

# Cooperative Education Program

Students majoring in Biology may obtain practical work experience while pursuing their degrees. The Cooperative Education Program allows qualified students either to alternate semesters of academic study with semesters of full-time work experience or to combine part-time academic study and part-time work during the same semester. Students who are in good standing with the University, have a minimum overall GPA of 2.5, and have completed 30 credit hours are eligible to apply. Transfer students are required to complete 12 credit hours at the University prior to application. The work experience is arranged by the University Career Center and must be approved by the Department of Biological Sciences. Placements are based on a student's academic interests and on the availability of appropriate positions and are carried out under the supervision of a Biology faculty member who serves as co-op advisor. Work semesters are followed by participation in the Biology Cooperative Education Seminar.

# Early Entry: Master of Science in Biology

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

## Admission Requirements

**Current UNC Charlotte Undergraduate**

See University Admission Requirements

- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

## Progression Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree.

## Special Policies or Requirements

Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# Department of Chemistry

chemistry.charlotte.edu

## Undergraduate Programs

- B.A. in Chemistry
  - Honors Program
  - Teacher Licensure
- B.S. in Chemistry
  - Biochemistry
  - Honors Program
- Minor in Chemistry
- Early Entry: M.S. in Chemistry

Chemistry is a discipline fundamental to a wide variety of careers in industry, research, and the allied health fields. A strong foundation in chemistry is necessary for careers in medicine, molecular biology, biochemistry, industrial or government research, pharmacy, high school teaching, and chemical engineering. A background in chemistry may also be useful for careers in chemical sales, industrial management, business administration, and environmental management.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

## Degree Programs

The Department of Chemistry offers two B.S. in Chemistry degree programs approved by the American Chemical Society (ACS), two non-ACS-certified B.S. degree programs and a research-based M.S. degree, which provide the background necessary for a career in industry or for further graduate studies in chemistry and related fields. In addition, a B.A. in Chemistry degree program is available for students who plan to pursue a career in chemical industry, secondary education, or professional studies in areas such as medicine, dentistry, veterinary medicine, and optometry. The Minor in Chemistry is offered for students who desire some experience in chemistry as an adjunct to their major. Programs leading to careers in pharmacy and chemical engineering are available in cooperation with other institutions. Please see the "Preparation for Professional Schools" section in this Catalog for details.

## Academic Advising

Students are urged to consult with their academic advisors every semester. Students should work with their academic advisors to develop a long-range plan for academic progress rather than merely selecting courses on a semester-by-semester basis.

# Bachelor of Arts in Chemistry

The B.A. in Chemistry is recommended for students preparing for professional schools, a career in chemistry, and secondary teaching licensure.

### Admission Requirements

**Freshmen and Transfers**

- See University Admission Requirements
- *Minimum GPA:* 2.0. Students with prior credit earned at UNC Charlotte must have a minimum overall and Chemistry GPA of 2.0.
- Declaration of Major: Students are eligible to declare a B.A. in Chemistry major upon admission to UNC Charlotte
- *Transferable Credit Hours:* 24

**Currently Enrolled Students**

- Minimum GPA: 2.0
- Complete the Change of Major Form and meet with the Chemistry Advising Coordinator

### Degree Requirements

A Major in Chemistry leading to the B.A. degree consists of a minimum of 32 credit hours of chemistry courses, 6 credit hours of mathematics courses, and 8 credit hours of physics courses.

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information. Students with a Major in Chemistry should plan on taking the following courses that meet both general education and major requirements:

MATH 1241 - Calculus I (3)
MATH 1242 - Calculus II (3)
CHEM 1251 - General Chemistry I (3)
CHEM 1251L - General Chemistry I Laboratory (1)
CHEM 1252 - General Chemistry II (3)
CHEM 1252L - General Chemistry II Laboratory (1)
CHEM 4695 - Chemistry Seminar II (2)
CHEM 4696 - Chemistry Seminar (1)

**Major Courses (32 credit hours)**

CHEM 1251 - General Chemistry I (3)
CHEM 1251L General Chemistry I Lab (1)
CHEM 1252 - General Chemistry II (3)
CHEM 1252L - General Chemistry II Lab (1)
CHEM 2131 - Organic Chemistry I (3)
CHEM 2131L - Organic Chemistry I Lab (1)
CHEM 2132 - Organic Chemistry II (3)
CHEM 2132L - Organic Chemistry II Lab (1)
or CHEM 2136L - Organic Chemistry Lab (1)

CHEM 2141 - Survey of Physical Chemistry (3)
CHEM 3111 - Quantitative Analysis (4)
CHEM 3121 - Inorganic Chemistry (3)
CHEM 3695 - Chemistry Seminar (1)
CHEM 4695 - Chemistry Seminar II (2)
CHEM 4696 - Chemistry Seminar (1)

**Restricted Elective Courses (3 credit hours)**
*Select from the following:*
CHEM 3141 - Physical Chemistry I (3)
CHEM 3141L - Physical Chemistry I Laboratory (1)
CHEM 3142 - Physical Chemistry II (3)
CHEM 3142L - Physical Chemistry II Laboratory (1)
CHEM 3165 - Survey of Biochemistry (3)
CHEM 4111 - Instrumental Analysis (4)
CHEM 4121 - Advanced Inorganic Chemistry (4)
CHEM 4133 - Methods of Organic Structure Determination (2)
CHEM 4134 - Organic Reaction Mechanisms (2)
CHEM 4165 - Principles of Biochemistry I (3)
CHEM 4165L - Principles of Biochemistry I Laboratory (1)
CHEM 4166 - Principles of Biochemistry II (3)
CHEM 4171 - Biochemical Instrumentation (4)
CHEM 4200 - Computational Chemistry (4)

***Elective Course Notes:***
***Pre-Professional Studies***
Students majoring in Chemistry who are planning future studies in medicine, dentistry, or other allied health professions should choose CHEM 4165 and take as electives BIOL 2120 and BIOL 2130. At least one additional BIOL course at the 3000- or 4000-level is recommended.

***Careers in Chemical Industry***
Students planning to pursue employment in chemical industry or other careers requiring a background in chemistry should choose CHEM 4111 as a chemistry elective.

**Related Courses (14 credit hours)**
***Mathematics Courses (6 hours)***
MATH 1241 - Calculus I (3)
MATH 1242 - Calculus II (3)

***Physics Courses (8 hours)***
*Select a sequence of four courses from one of the following options:*

***Option 1***
PHYS 1101 - Introductory Physics I (3)
PHYS 1101L - Introductory Physics I Lab (1)
PHYS 1102 - Introductory Physics II (3)
PHYS 1102L - Introductory Physics II Lab (1)

***Option 2***
PHYS 2101 - Physics for Science and Engineering I (3)
PHYS 2101L - Physics for Science and Engineering I Lab (1)
PHYS 2102 - Physics for Science and Engineering II (3)
PHYS 2102L - Physics for Science and Engineering II Lab (1)

***Option 3***
PHYS 2101 - Physics for Science and Engineering I (3)
PHYS 2101L - Physics for Science and Engineering I Lab (1)
PHYS 1102 - Introductory Physics II (3)
PHYS 1102L - Introductory Physics II Lab (1)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements
Students who have declared a major in Chemistry remain in good academic standing within the department if the following criteria are met:

- The Chemistry GPA remains at or above 2.0
- Progression through CHEM 1251, CHEM 1251L, CHEM 1252, CHEM 1252L, CHEM 2131, CHEM 2131L, CHEM 2132, CHEM 2132L and CHEM 3111 occurs in no more than two attempts per course

A student whose Chemistry GPA is below 2.0 is placed on provisional continuation status. Should the Chemistry GPA remain below the required level after three successive semesters, the student is ineligible for continuation in bachelor degree programs in Chemistry. Students may declare the Chemistry major again if their Chemistry GPA rises to the requisite level if they were previously dropped from the major.

Students attempting CHEM 1251, CHEM 1251L, CHEM 1252, CHEM 1252L, CHEM 2131, CHEM 2131L, CHEM 2132, CHEM 2132L and CHEM 3111 for the third time are placed on provisional continuation status. Students who earn a grade of D, F or W in the third attempt are ineligible for continuation in bachelor degree programs in Chemistry.

Additionally, students must earn a C or above in all required chemistry courses for the major, including the chemistry elective course required for the B.A. degree. A student may petition for a one-time exemption to this requirement.

A minimum chemistry GPA of 2.0 is required to graduate.

# Bachelor of Arts in Chemistry *with Teacher Licensure*
To meet North Carolina requirements to teach Chemistry at the secondary level (grades 9-12), students must complete a Major in Chemistry and a Minor in Secondary Education. The Major in Chemistry leading to the B.A. degree consists of 32 credit hours in chemistry courses.

## Admission Requirements
**Freshmen and Transfers**
- See University Admission Requirements
- *Minimum GPA:* 2.0. Students with prior credit earned at UNC Charlotte must have a minimum overall and Chemistry GPA of 2.0.
- Students interested in pursuing teaching licensure should consult an

undergraduate advisor in the College of Education's Office of Teacher Education Advising and Licensure (TEAL) for admission requirements and a detailed planning sheet of their professional education coursework. Licensure applications also are the responsibility of TEAL.

- *Transferable Credit Hours:* 24

**Currently Enrolled Students**

- *Declaration of Major:* Students are eligible to declare a B.A. in Chemistry major upon admission to UNC Charlotte.

## Degree Requirements

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information. Students with a Major in Chemistry should plan on taking the following courses that meet both general education and major requirements:

MATH 1241 - Calculus I (3)
MATH 1242 - Calculus II (3)
CHEM 1251 - General Chemistry I (3)
CHEM 1251L - General Chemistry I Laboratory (1)
CHEM 1252 - General Chemistry II (3)
CHEM 1252L - General Chemistry II Laboratory (1)
CHEM 4695 - Chemistry Seminar II (2)
CHEM 4696 - Chemistry Seminar (1)

**Major Courses (29 credit hours)**

CHEM 1251 - General Chemistry I (3)
CHEM 1251L General Chemistry I Lab (1)
CHEM 1252 - General Chemistry II (3)
CHEM 1252L - General Chemistry II Lab (1)
CHEM 2131 - Organic Chemistry I (3)
CHEM 2131L - Organic Chemistry I Lab (1)
CHEM 2132 - Organic Chemistry II (3)
CHEM 2132L - Organic Chemistry II Lab (1)
CHEM 2141 - Survey of Physical Chemistry (3)
CHEM 3111 - Quantitative Analysis (4)
CHEM 3121 - Inorganic Chemistry (3)
CHEM 3695 - Chemistry Seminar (1)
CHEM 4695 - Chemistry Seminar II (2)

**Restricted Elective Courses (3 credit hours)**

*Select one of the following:*
CHEM 3141 - Physical Chemistry I (3)
CHEM 3141L - Physical Chemistry I Laboratory (1) -
CHEM 3142 - Physical Chemistry II (3)
CHEM 3142L - Physical Chemistry II Laboratory (1) -
CHEM 4111 - Instrumental Analysis (4)
CHEM 4121 - Advanced Inorganic Chemistry (4)
CHEM 4133 - Methods of Organic Structure Determination (2)
CHEM 4134 - Organic Reaction Mechanisms (2) -
CHEM 4165 - Principles of Biochemistry I (3) -
CHEM 4165L - Principles of Biochemistry I Laboratory (1)
CHEM 4166 - Principles of Biochemistry II (3)
CHEM 4171 - Biochemical Instrumentation (4)
CHEM 4200 - Computational Chemistry (4) -

**Related Courses (22 credit hours)**

***Biology Courses (4 credit hours)***
BIOL 1110 - Principles of Biology I (3)
BIOL 1110L - Principles of Biology I Lab (1)

***Mathematics Courses (6 credit hours)***
MATH 1241 - Calculus I (3)
MATH 1242 - Calculus II (3)

***Physics Courses (8 credit hours)***
*Select one of the following options:*

***Option 1***
PHYS 1101 - Introductory Physics I (3)
PHYS 1101L - Introductory Physics I Lab (1)
PHYS 1102 - Introductory Physics II (3)
PHYS 1102L - Introductory Physics II Lab (1)

***Option 2***
PHYS 2101 - Physics for Science and Engineering I (3)
PHYS 2101L - Physics for Science and Engineering I Lab (1)
PHYS 2102 - Physics for Science and Engineering II (3)
PHYS 2102L - Physics for Science and Engineering II Lab (1)

***Option 3***
PHYS 2101 - Physics for Science and Engineering I (3)
PHYS 2101L - Physics for Science and Engineering I Lab (1)
PHYS 1102 - Introductory Physics II (3)
PHYS 1102L - Introductory Physics II Lab (1)

***Geography and Earth Sciences Courses (4 credit hours)***
*Select one of the following courses and its corequisite laboratory:*

ESCI 1101 - Earth Sciences-Geography (3)
ESCI 1101L - Earth Sciences-Geography Lab (1)
or
GEOL 1200 - Physical Geology (3)
GEOL 1200L - Physical Geology Lab (1)

**Minor in Secondary Education (33 credit hours)**

For details on required General Education courses, refer to Minor in Secondary Education program.

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120-128 Credit Hours

## Progression Requirements

Students who have declared a major in Chemistry remain in good academic standing within the department if the following criteria are met:

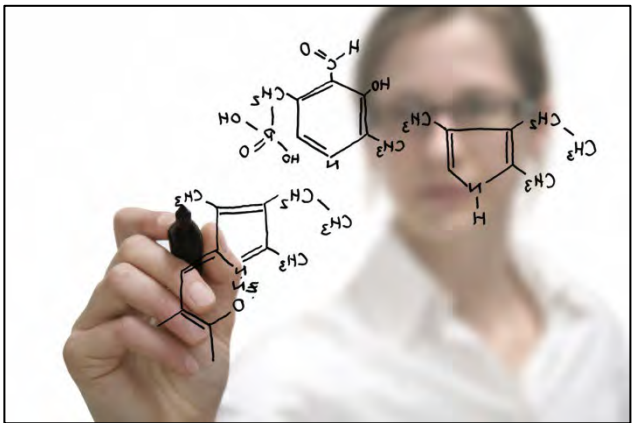
- The Chemistry GPA remains at or above 2.0
- Progression through CHEM 1251, CHEM 1251L, CHEM 1252, CHEM 1252L, CHEM 2131, CHEM 2131L, CHEM 2132, CHEM 2132L and CHEM 3111 occurs in no more than two attempts per course

A student whose Chemistry GPA is below 2.0 is placed on provisional continuation status. Should the Chemistry GPA remain below the required level after three successive semesters, the student is ineligible for continuation in bachelor degree programs in Chemistry. Students may declare the Chemistry major again if their Chemistry GPA rises to the requisite level if they were previously dropped from the major.

Students attempting CHEM 1251, CHEM 1251L, CHEM 1252, CHEM 1252L, CHEM 2131, CHEM 2131L, CHEM 2132, CHEM 2132L and CHEM 3111 for the third time are placed on provisional continuation status. Students who earn a grade of D, F or W in the third attempt are ineligible for continuation in bachelor degree programs in Chemistry.

Additionally, students must earn a C or above in all required chemistry courses for the major, including the chemistry elective required for the B.A. degree. A student may petition for a one-time exemption to this requirement.

A minimum chemistry GPA of 2.0 is required to graduate.



# Bachelor of Science in Chemistry

The B.S. degree is recommended for students planning to begin careers as chemists with the baccalaureate degree and those preparing for graduate study in chemistry.

## Admission Requirements

### Freshmen

- See University Admission Requirements
- *Minimum GPA:* 2.0. Students with prior credit earned at UNC Charlotte must have a minimum overall and Chemistry GPA of 2.0.
- *Prerequisite Courses*: Complete the following with minimum grades of C:
    - CHEM 2132 or CHEM 3111
    - MATH 1242
    - PHYS 2102
    - PHYS 2102L

### Transfers

- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Pre-Major/Prerequisite Courses:* Complete the following with minimum grades of C:
    - CHEM 2132 or CHEM 3111
    - MATH 1242
    - PHYS 2102
    - PHYS 2102L
- *Declaration of Major:* Transfer students may declare the major if the above requirements were met at their previous institution(s).
- *Transferable Credit Hours*: 24

### Currently Enrolled Students

- *Declaration of Major:* Students are eligible to declare a Major in Chemistry upon passing MATH 1242, PHYS 2102, and PHYS 2102L; and earning a grade of C or above in CHEM 2132 or CHEM 3111.

## Degree Requirements

A B.S. in Chemistry requires a total of 120 credit hours. Students may choose from the ACS-certified B.S. degree or the non-certified degree. The ACS-certified B.S. in Chemistry degree consists of a minimum of 46 credit hours of chemistry courses, 12 credit hours of mathematics courses, and 8 credit hours of physics courses. The non-certified B.S. in Chemistry degree consists of a minimum of 45 credit hours of chemistry courses, 12 credit hours of mathematics courses, and 8 credit hours of physics courses.

### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information. Students with a Major in Chemistry should plan on taking the following courses that meet both general education and major requirements:

MATH 1241 - Calculus I (3)
MATH 1242 - Calculus II (3)
CHEM 1251 - General Chemistry I (3)
CHEM 1251L - General Chemistry I Laboratory (1)
CHEM 1252 - General Chemistry II (3)
CHEM 1252L - General Chemistry II Laboratory (1)
CHEM 4695 - Chemistry Seminar II (2)
CHEM 4696 - Chemistry Seminar (1)

### Major Courses (46 credit hours)

CHEM 1251 - General Chemistry I (3)
CHEM 1251L General Chemistry I Lab (1)
CHEM 1252 - General Chemistry II (3)
CHEM 1252L - General Chemistry II Lab (1)
CHEM 2131 - Organic Chemistry I (3)
CHEM 2131L - Organic Chemistry I Lab (1)
CHEM 2132 - Organic Chemistry II (3)

CHEM 2132L - Organic Chemistry II Lab (1)
or CHEM 2136L Organic Chemistry Lab (1)
CHEM 3111 - Quantitative Analysis (4)
CHEM 3141 - Physical Chemistry I (3)
CHEM 3141L - Physical Chemistry I Lab (1)
CHEM 3142 - Physical Chemistry II (3)
CHEM 3142L - Physical Chemistry II Lab (1)
CHEM 3695 - Chemistry Seminar (1)
CHEM 4111 - Instrumental Analysis (4)
CHEM 4121 - Advanced Inorganic Chemistry (4)
CHEM 4133 - Methods of Organic Structure Determination (2)
CHEM 4165 - Principles of Biochemistry I (3)*
CHEM 4695 - Chemistry Seminar II (2)
CHEM 4900 - Directed Undergraduate Research (1 to 4) *(two semesters required, culminating in a comprehensive written report)*

**Students wishing to pursue the non-ACS-certified B.S. degree (with a minimum of 45 credit hours in chemistry) should replace CHEM 4165 with two credit hours of 4000-level chemistry courses that must be approved by the Department of Chemistry.*

**Related Courses (20 credit hours)**
***Mathematics Courses (12 credit hours)***
MATH 1241 - Calculus I (3)
MATH 1242 - Calculus II (3)

*Plus two of the following:*
MATH 2241 - Calculus III (3)
MATH 2242 - Calculus IV (3)
MATH 2164 - Matrices and Linear Algebra (3)
MATH 2171 - Differential Equations (3)
STAT 3128 - Probability and Statistics for Engineers (3)
or other department-approved math course

***Physics Courses (8 credit hours)***
PHYS 2101 - Physics for Science and Engineering I (3)
PHYS 2101L - Physics for Science and Engineering I Lab (1)
PHYS 2102 - Physics for Science and Engineering II (3)
PHYS 2102L - Physics for Science and Engineering II Lab (1)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements
Students who have declared a major in Chemistry remain in good academic standing within the department if the following criteria are met:

- The Chemistry GPA remains at or above 2.0
- Progression through CHEM 1251, CHEM 1251L, CHEM 1252, CHEM 1252L, CHEM 2131, CHEM 2131L, CHEM 2132, CHEM 2132L and CHEM 3111 occurs in no more than two attempts per course

A student whose Chemistry GPA is below 2.0 is placed on provisional continuation status. Should the Chemistry GPA remain below the required level after three successive semesters, the student is ineligible for continuation in bachelor degree programs in Chemistry. Students may declare the Chemistry major again if their Chemistry GPA rises to the requisite level if they were previously dropped from the major.

Students attempting CHEM 1251, CHEM 1251L, CHEM 1252, CHEM 1252L, CHEM 2131, CHEM 2131L, CHEM 2132, CHEM 2132L and CHEM 3111 for the third time are placed on provisional continuation status. Students who earn a grade of D, F or W in the third attempt are ineligible for continuation in bachelor degree programs in Chemistry.

Additionally, students must earn a C or above in all required chemistry courses for the major, including the chemistry elective required for the B.A. degree. A student may petition for a one-time exemption to this requirement.

A minimum chemistry GPA of 2.0 is required to graduate.

# Bachelor of Science in Chemistry *with Concentration in Biochemistry*
The B.S. degree with a Concentration in Biochemistry is recommended for students planning to begin careers as chemists with the baccalaureate degree and those preparing for graduate study in chemistry.

## Admission Requirements
**Freshmen**
- See University Admission Requirements
- *Minimum GPA:* 2.0. Students with prior credit earned at UNC Charlotte must have a minimum overall and Chemistry GPA of 2.0.
- *Prerequisite Courses*: Complete the following with minimum grades of C:
    - CHEM 2132 or CHEM 3111
    - MATH 1242
    - PHYS 2102
    - PHYS 2102L

**Transfers**
- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Pre-Major/Prerequisite Courses:* Complete the following with minimum grades of C:
    - CHEM 2132 or CHEM 3111
    - MATH 1242
    - PHYS 2102
    - PHYS 2102L
- *Declaration of Major:* Transfer students may declare the major if the above requirements were met at their previous institution(s),
- *Transferable Credit Hours*: 24

**Currently Enrolled Students**
- *Declaration of Major:* Students are eligible to declare a Major in Chemistry upon passing MATH 1242, PHYS 2102, and PHYS 2102L; and earning a grade of C or above in CHEM 2132 or CHEM 3111,

## Degree Requirements

The B. S. in Chemistry with Concentration in Biochemistry requires a total of 120 credit hours. Students may choose from the ACS-certified degree or the non-certified degree. A Major in Chemistry leading to the ACS-certified B.S. degree with a Concentration in Biochemistry requires a minimum of 48 credit hours of chemistry courses, 12 credit hours of mathematics courses, and 8 credit hours of physics courses.

The non-certified B.S. degree with a Concentration in Biochemistry follows the same requirements as the ACS-certified degree with the following exceptions: (1) a minimum of 44 credit hours in chemistry are required, and (2) CHEM 4121 is not required.

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information. Students with a Major in Chemistry should plan on taking the following courses that meet both general education and major requirements:

MATH 1241 - Calculus I (3)
MATH 1242 - Calculus II (3)
CHEM 1251 - General Chemistry I (3)
CHEM 1251L - General Chemistry I Laboratory (1)
CHEM 1252 - General Chemistry II (3)
CHEM 1252L - General Chemistry II Laboratory (1)
CHEM 4695 - Chemistry Seminar II (2)
CHEM 4696 - Chemistry Seminar (1)

**Major Courses (48 credit hours)**

CHEM 1251 - General Chemistry I (3)
CHEM 1251L General Chemistry I Lab (1)
CHEM 1252 - General Chemistry II (3)
CHEM 1252L - General Chemistry II Lab (1)
CHEM 2131 - Organic Chemistry I (3)
CHEM 2131L - Organic Chemistry I Lab (1)
CHEM 2132 - Organic Chemistry II (3)
CHEM 2132L - Organic Chemistry II Lab (1)
or CHEM 2136L Organic Chemistry Lab (1)
CHEM 3111 - Quantitative Analysis (4)
CHEM 3141 - Physical Chemistry I (3)
CHEM 3141L - Physical Chemistry I Lab (1)
CHEM 3142 - Physical Chemistry II (3)
CHEM 3142L - Physical Chemistry II Lab (1)
CHEM 3695 - Chemistry Seminar (1)
CHEM 4111 - Instrumental Analysis (4)
or CHEM 4171 - Biochemical Instrumentation (4)
CHEM 4121 - Advanced Inorganic Chemistry (4)*
CHEM 4165 - Principles of Biochemistry I (3)
CHEM 4165L - Principles of Biochemistry I Lab (1)
CHEM 4166 - Principles of Biochemistry II (3)
CHEM 4695 - Chemistry Seminar II (2)
CHEM 4696 - Chemistry Seminar (1)
CHEM 4900 - Directed Undergraduate Research (1 to 4) *(two semesters required, culminating in a comprehensive written report)***

**CHEM 4121 is not required for the non-certified B.S. degree with Concentration in Biochemistry*
***BIOL 3900 may be substituted for CHEM 4900 with special permission from the Department of Chemistry.*

**Related Courses (31 credit hours)**

***Mathematics Courses (12 credit hours)***

MATH 1241 - Calculus I (3)
MATH 1242 - Calculus II (3)

*Plus two of the following:*
MATH 2241 - Calculus III (3)
MATH 2242 - Calculus IV (3)
MATH 2164 - Matrices and Linear Algebra (3) -
MATH 2171 - Differential Equations (3)
STAT 3128 - Probability and Statistics for Engineers (3)
or a department-approved math course

***Physics Courses (8 credit hours)***

PHYS 2101 - Physics for Science and Engineering I (3)
PHYS 2101L - Physics for Science and Engineering I Lab (1)
PHYS 2102 - Physics for Science and Engineering II (3)
PHYS 2102L - Physics for Science and Engineering II Lab (1)

***Biology Courses (11 credit hours)***

*These courses are recommended:*
BIOL 2120 - General Biology I (3)
BIOL 2130 - General Biology II (3)
BIOL 2140L - General Biology Lab (2)
BIOL 3111 - Cell Biology (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements

Students who have declared a major in Chemistry remain in good academic standing within the department if the following criteria are met:

- The Chemistry GPA remains at or above 2.0
- Progression through CHEM 1251, CHEM 1251L, CHEM 1252, CHEM 1252L, CHEM 2131, CHEM 2131L, CHEM 2132, CHEM 2132L and CHEM 3111 occurs in no more than two attempts per course

A student whose Chemistry GPA is below 2.0 is placed on provisional continuation status. Should the Chemistry GPA remain below the required level after three successive semesters, the student is ineligible for continuation in bachelor degree programs in Chemistry. Students may declare the Chemistry major again if their Chemistry GPA rises to the requisite level if they were previously dropped from the major.

Students attempting CHEM 1251, CHEM 1251L, CHEM 1252, CHEM 1252L, CHEM 2131, CHEM 2131L, CHEM 2132, CHEM 2132L and CHEM

3111 for the third time are placed on provisional continuation status. Students who earn a grade of D, F or W in the third attempt are ineligible for continuation in bachelor degree programs in Chemistry.

Additionally, students must earn a C or above in all required chemistry courses for the major, including the chemistry elective required for the B.A. degree. A student may petition for a one-time exemption to this requirement.

A minimum chemistry GPA of 2.0 is required to graduate.

# Minor in Chemistry

The Minor in Chemistry provides a means for students majoring in another discipline to develop a foundation of knowledge in selected areas of chemistry. Students with a major in science or non-science disciplines are welcome to pursue a Minor in Chemistry. A Minor in Chemistry consists of 23 credit hours of chemistry courses.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- *Minimum GPA:* 2.0

**Currently Enrolled Students**

- Complete the Change of Major/Minor Form and submit it to the Chemistry Department Office

## Minor Requirements

**Required Courses (20 credit hours)**

CHEM 1251 - General Chemistry I (3)*
CHEM 1251L General Chemistry I Lab (1)*
CHEM 1252 - General Chemistry II (3)*
CHEM 1252L - General Chemistry II Lab (1)*
CHEM 2131 - Organic Chemistry I (3)*
CHEM 2131L - Organic Chemistry I Lab (1)*
CHEM 2132 - Organic Chemistry II (3)*
CHEM 2132L - Organic Chemistry II Lab (1)*
or CHEM 2136L - Organic Chemistry Lab (1)
CHEM 3111 - Quantitative Analysis (4)*

**Elective Courses (3 credit hours)**

*Select from the following:*
CHEM 2141 - Survey of Physical Chemistry (3)
CHEM 3121 - Inorganic Chemistry (3)
CHEM 3141 - Physical Chemistry I (3)
CHEM 3165 - Survey of Biochemistry (3)
CHEM 4111 - Instrumental Analysis (4)
CHEM 4133 - Methods of Organic Structure Determination (2)
CHEM 4134 - Organic Reaction Mechanisms (2)
CHEM 4165 - Principles of Biochemistry I (3)
CHEM 4200 - Computational Chemistry (4)

## Total = 23 Credit Hours

## Progression Requirements

A minimum GPA of 2.0 in the minor is required. Students may attempt courses in the minor a total of three times each. Withdrawing from the course after the Add/Drop deadline constitutes an attempt, as does receiving any letter grade.

# Honors Program in Chemistry

This program is intended primarily for chemistry majors. It is a research-oriented program. Details are available from the Department of Chemistry and the department's website at chemistry.charlotte.edu.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

See University Admission Requirements

Consideration for admission to the Honors Program may be initiated by the student or by any chemistry honors faculty member. The Honors Program Director of the Chemistry Department will formally approve admission. The student may be removed from the Honors Program at any time, upon his/her own request or upon the recommendation of the Honors Committee of the Chemistry Department. They will then exercise the option of (1) withdrawing from the Honors course(s) in accordance with the University policy on withdrawal or (2) switching from the Honors section of the course(s) to a regular (non-Honors) section of the course(s). Continuation in the Honors Program is reviewed each semester and the student may be removed by the Honors Program Director if their GPA requirements are not maintained, or if they have committed any academic integrity code violations.

## Course Requirements

1. Complete at least 2 semesters, and a minimum of 4 credit hours of Directed Honors Research CHEM 4900H. At least 2 credit hours are taken in the student's last semester as a capstone experience. The student must form an Honors thesis committee and prepare an Honors research proposal for submission to their thesis committee and the Honors Program Director during their penultimate semester. This proposal must be approved, by their committee, one week prior to being submitted to the Honors College.
2. Complete an Honors Research Capstone experience and complete an Honors thesis based on their own Directed Honors Research.
3. Complete 1 hour of Honors Seminar (CHEM 4696H), which involves a seminar presentation of the results of the Honors research and defense of the Honors thesis. The thesis must be successfully defended before the student's Honors Thesis Committee (consisting of the Honors research advisor, plus two additional members of the Chemistry Department's Honors Faculty).
4. Students are encouraged to join the Chemistry Honors program as early as their Freshman year. Contact the Chemistry Honors Program Director for details on how to get started.
5. It is recommended that students interested in a Chemistry Honors degree join a research group no later than their junior year. They should enroll in CHEM 3695H in their junior year, and CHEM 4695H in their penultimate semester. The student's Honors proposal and application to candidacy are due by Reading Day of their penultimate semester.

CHEM 4696 - Chemistry Seminar (1)

CHEM 4900 - Directed Undergraduate Research (1 to 4)

### Progression Requirements

To obtain Honors in Chemistry, a student must successfully complete at least four hours of CHEM 4900 over at least two semesters, at the Honors level, one semester of CHEM 4696 at the Honors level, prepare and successfully defend an honors thesis based on their independent research, and complete the Application to Candidacy process for graduating with honors, as directed by the Honors College. The honors notation will appear on a student's official transcript.

Honors students must have a GPA of at least 3.75 for all Honors work in Chemistry at UNC Charlotte. The preferred GPA for all UNC Charlotte course work is at least 3.5, with a preferred GPA of at least 3.25 for all course work in Chemistry (CHEM) taken at UNC Charlotte. The successful student must receive a grade of "A" for at least 4 hours of Directed Honors Research (CHEM 4900H), and receive a grade of "A" for CHEM 4696H, including the defense of their honors thesis to their thesis committee.

## Cooperative Education Program

Students majoring in Chemistry may obtain practical work experience in chemistry before graduation by participating in the Chemistry Cooperative Education Experience any time after the completion of Sophomore year and CHEM 2132. A minimum GPA of 2.5 overall and 2.5 in chemistry is required. At least two semesters of full-time work assignments on alternating semesters must be completed concurrent with enrollment in CHEM 3500. Advisors will assist students to design a schedule that accommodates both work assignments and the upper-division chemistry courses which are normally offered on alternate semesters. Experiences are arranged in coordination with the University Career Center.

## Early Entry: Master of Science in Chemistry

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree. The Early Entry Program for the M.S. in Chemistry leads to completion of all requirements for the B.S. and M.S. degrees in only five academic years and one or two summers. Students should consult with the Chemistry M.S. Graduate Program Coordinator about their eligibility for this program and to discuss requirements for selection of a research advisor during their Junior year.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

See University Admission Requirements

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Completed the standard B.S. in Chemistry curriculum through at least Physical Chemistry
- Minimum 3.2 overall undergraduate GPA
- Minimum 3.0 GPA in chemistry, mathematics, and physics courses
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

*Note: GRE scores are not required.*

### Progression Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree.

### Special Policies or Requirements

Up to 6 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 6 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees). Students may leave the program after four years with the B.S. degree, or they may complete an additional academic year and summer of full-time study and research to earn both the B.S. and M.S. degrees in Chemistry.

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

# Department of Mathematics and Statistics

math.charlotte.edu

## Undergraduate Programs

- B.A. in Mathematics
  - Actuarial Science
  - Statistics
  - Teacher Licensure (Secondary Education Minor)
- B.S. in Mathematics
  - Actuarial Science
  - Statistics and Data Science
  - Teacher Licensure (Secondary Education Minor)
- B.A. in Mathematics for Business
- B.S. in Mathematics for Business
  - Economics/Finance
  - Actuarial Science
- Minor in Actuarial Mathematics
- Minor in Mathematics
- Minor in Statistics
- Honors Program in Mathematics or Mathematics for Business
- Undergraduate Certificate in Actuarial Studies
- Early Entry: M.S. in Mathematics
- Early Entry: M.S. in Financial Engineering and Fin Tech *(see Belk College of Business, Department of Finance)*

Mathematics has important applications to numerous areas ranging from economics and other social sciences to physics and engineering. It is a challenging and interesting area to study in its own right with a broad and varied curriculum. Of course, graduates with a major in mathematics can become teachers and are in very high demand. Upon graduation, mathematics majors have many options due to their strengths in critical thinking, quantitative skills, and data reasoning. The leading occupational areas include:

- Accounting and Finance
- Computer Programming
- Sales and Marketing
- Management and Related Positions
- Actuarial
- Computer Systems Analysis
- Statistical and Mathematical Modeling
- Health and Social Services

Career choices for students who concentrate in Statistics would also include those related to the environment, food and drug industry, and the energy sector. Mathematics majors have consistently ranked near the highest in performance on both the LSAT and the GMAT standardized tests for law school and graduate level business programs, respectively.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

### Degree Programs

The Department of Mathematics and Statistics offers a B.A. and B.S. in Mathematics (with optional concentrations); a B.A. and B.S. in Mathematics for Business; three minors: Mathematics, Actuarial Science, and Statistics; a certificate in Actuarial Studies; teacher licensure; and an Honors program. Many of our undergraduate students are accepted into the early entry program from the M.S. in Mathematics or the M.S. in Financial Engineering and Fin Tech.

For further studies, the department offers graduate programs leading to master's and doctoral degrees. The Ph.D. degree is available in Applied Mathematics. The M.S. in Mathematics degree has Concentrations in General Mathematics, Applied Mathematics, Mathematics Education, Actuarial Statistics, and Applied Statistics. Additional information on these programs can be found in the *UNC Charlotte Graduate Catalog*.

## Bachelor of Arts in Mathematics

The Department of Mathematics and Statistics offers an undergraduate program of study leading to a Bachelor of Arts (B.A.) degree in Mathematics. This degree provides the flexibility that students need to study mathematics and complement their coursework with a minor or even a second major from a variety of career options.

### Admission Requirements

#### Freshmen and Transfers

- See University Admission Requirements
- *Minimum GPA*: 2.0
- *Prerequisite Courses:* GPA of at least 2.0 in each of the following categories:
  - All MATH, STAT, and OPRS courses taken
  - All 2000-level and above MATH, STAT, and OPRS courses taken
- *Transferable Credit Hours:* 24

#### Currently Enrolled Students

- *Declaration of Major:* Change of Major forms accepted year-round. Forms are available on the Math Department website. Orientation/advising session is required after declaration.

### Degree Requirements

A Major in Mathematics for the B.A. degree consists of a minimum of 37 credit hours of approved Mathematics (MATH), Operations Research (OPRS), or Statistics (STAT) courses, one programming course in Computer Science (ITCS), and 18 credit hours of approved related coursework in an area outside of the department or an approved University minor from outside the department.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Major Courses (44-47 credit hours)**
**Core Courses (29 credit hours)**
ITSC 1212 - Introduction to Computer Science I (4)
MATH 1241 - Calculus I (3)
MATH 1242 - Calculus II (3)
MATH 2164 - Matrices and Linear Algebra (3)
MATH 2167 - Introduction to Mathematical Reasoning (3)
MATH 2171 - Differential Equations (3)
MATH 2241 - Calculus III (3)
MATH 2242 - Calculus IV (3)
MATH 2688 - Mathematics Awareness Seminar (1)
MATH 3163 - Introduction to Modern Algebra (3)

**Restricted Elective Courses (12 credit hours)**
Select 12 credit hours of approved courses from MATH, STAT, or OPRS at the 3000-level or above.

**Related Elective Courses or a Minor (18 credit hours)**
Select 18 credit hours of electives in related courses. Elective courses should be chosen from related disciplines or an approved minor in another discipline. Courses that count toward this requirement must have a discipline prefix other than MATH, STAT, or OPRS. Students should select courses in consultation with the department and/or their advisor.

**Capstone Project (3-6 credit hours)**
Students must complete a Senior Project capstone. Alternatively, students may complete 6 credit hours towards an Honors project. For more information on the Honors Program in Mathematics, visit the program's page.

MATH 3689 – Mathematics Senior Project Seminar (3)
*or the sequence:*
MATH 3790 - Junior Honors Seminar (3)
MATH 3791 - Senior Honors Tutorial (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements
An overall GPA of at least 2.0 and a GPA of at least 2.0 in all math courses is required.

# Bachelor of Arts in Mathematics *with Concentration in Actuarial Science*
The Department of Mathematics and Statistics offers an undergraduate program of study leading to a Bachelor of Arts (B.A.) degree in Mathematics with a Concentration in Actuarial Science. This program provides students a comprehensive course of study to learn the concepts and skills needed to begin a career path in actuarial science. Actuaries are employed by insurance companies, government agencies, health service organizations, large corporations, and consulting firms. Actuaries design and price insurance policies and pension programs. Coursework in this program provides students with the core foundation for several of the professional actuarial exams. Required courses in economics, finance, and applied statistical methods also meet the Society of Actuaries requirements for Validation by Educational Experience (VEE).

## Admission Requirements
**Freshmen and Transfers**
- See University Admission Requirements
- *Minimum GPA*: 2.0
- *Prerequisite Courses:* GPA of at least 2.0 in each of the following categories:
  - All MATH, STAT, and OPRS courses taken
  - All 2000-level and above MATH, STAT, and OPRS courses taken
- *Transferable Credit Hours:* 24

**Currently Enrolled Students**
- *Declaration of Major:* Change of Major forms accepted year-round. Forms are available on the Math Department website. Orientation/advising session is required after declaration.

## Degree Requirements
The B.A. in Mathematics with a Concentration in Actuarial Science degree program consists of a minimum of 46 credit hours of mathematics and statistics courses, one programming course in computer science, and 12 credit hours of related courses for VEE (Validation by Educational Experience) credit and Technical Skills.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Major Courses (52-55 credit hours)**
**Core Courses (25 credit hours)**
ITSC 1212 - Introduction to Computer Science I (4)
MATH 1241 - Calculus I (3)
MATH 1242 - Calculus II (3)
MATH 2164 - Matrices and Linear Algebra (3)
MATH 2167 - Introduction to Mathematical Reasoning (3)
MATH 2171 - Differential Equations (3)
MATH 2241 - Calculus III (3)

MATH 2242 - Calculus IV (3)

**Concentration Courses (24 credit hours)**
MATH 3227 - Mathematical Theory of Interest and Applications (3)
MATH 3228 - Financial Mathematics and General Cash Flows (3)
MATH 4051 - Computer Exploration and Generation of Data (3)
MATH 4228 - Life Insurance Mathematics (3)
STAT 3110 - Applied Regression (3)
STAT 3122 - Probability and Statistics I (3)
STAT 3123 - Probability and Statistics II (3)
STAT 3150 - Time Series Analysis (3)

**Capstone Project (3-6 credit hours)**
Students must complete a Senior Project capstone. Alternatively, students may complete 6 credit hours towards an Honors project. For more information on the Honors Program in Mathematics, visit the program's page.

MATH 3689 - Mathematics Senior Project Seminar (3)
*or the sequence:*
MATH 3790 - Junior Honors Seminar (3)
MATH 3791 - Senior Honors Tutorial (3)

**Business Elective Courses (12 credit hours)**
*Select four from the following:*
ACCT 2121 - Principles of Accounting I (3)
ACCT 2122 - Principles of Accounting II (3)
ECON 2101 - Principles of Economics - Macro (3)
ECON 2102 - Principles of Economics - Micro (3)
FINN 3120 - Financial Management (3)
INFO 2130 - Introduction to Business Computing (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Actuarial Exam and VEE Credit Preparation
The following courses prepare students for the following Actuarial Exams and VEE credits:

**Exam FM – Financial Mathematics**
- MATH 3227 - Mathematical Theory of Interest and Applications (3)
- MATH 3228 - Financial Mathematics and General Cash Flows (3)

**Exam P - Probability**
- STAT 3122 - Probability and Statistics I (3)
- STAT 3123 - Probability and Statistics II (3)

**Exam FAM – Fundamentals of Actuarial Mathematics**
- MATH 4228 - Life Insurance Mathematics (3)
- STAT 4227 - Loss Models and Applications (3)

**Exam ALTAM – Advanced Long Term Actuarial Mathematics**
- MATH 4229 - Advanced Life Insurance Mathematics (3)

**Exam SRM – Statistics for Risk Modeling**
- STAT 3110 - Applied Regression (3)
- STAT 3150 - Time Series Analysis (3)

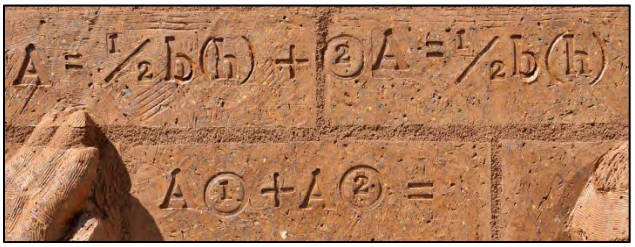
**VEE Statistics**
- STAT 3123 - Probability and Statistics II (3)

**VEE Economics**
- ECON 2101 - Principles of Economics - Macro (3)
- ECON 2102 - Principles of Economics - Micro (3)

**VEE Accounting and Finance**
- ACCT 2121 - Principles of Accounting I (3)
- FINN 3120 - Financial Management (3)

## Degree Total = 120 Credit Hours

## Progression Requirements
An overall GPA of at least 2.0 and a GPA of at least 2.0 in all math courses is required.



# Bachelor of Arts in Mathematics *with Concentration in Statistics*
The Department of Mathematics and Statistics offers an undergraduate program of study leading to a Bachelor of Arts (B.A.) degree in Mathematics with a Concentration in Statistics. Mathematics majors study relationships and patterns between numbers, structures, and processes. Math majors in the Statistics concentration take 12 credit hours of calculus, linear algebra, an introductory computer programming course, probability and statistics, applied regression, and upper-level electives such as design of experiments, time series analysis, multivariate analysis, applied statistics, and statistical computing, among others.

## Admission Requirements
**Freshmen and Transfers**
- See University Admission Requirements
- *Minimum GPA*: 2.0
- *Prerequisite Courses:* GPA of at least 2.0 in each of the following categories:
  - All MATH, STAT, and OPRS courses taken
  - All 2000-level and above MATH, STAT, and OPRS courses taken
- *Transferable Credit Hours:* 24

**Currently Enrolled Students**

- *Declaration of Major:* Change of Major forms accepted year-round. Forms are available on the Math Department website. Orientation/advising session is required after declaration.

## Degree Requirements

A Bachelor of Arts degree in Mathematics with a Concentration in Statistics consists of a minimum of 34 hours of Mathematics (MATH) and Statistics (STAT) courses, one programming course in Computer Science (ITCS), and 18 hours of approved related coursework in an area outside of the department or an approved University minor from outside the department.

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Major Courses (41-44 credit hours)**

**Core Courses (26 credit hours)**

ITSC 1212 - Introduction to Computer Science I (4)
MATH 1241 - Calculus I (3)
MATH 1242 - Calculus II (3)
MATH 2164 - Matrices and Linear Algebra (3)
MATH 2167 - Introduction to Mathematical Reasoning (3)
MATH 2241 - Calculus III (3)
MATH 2242 - Calculus IV (3)
MATH 2688 - Mathematics Awareness Seminar (1)
STAT 2122 - Introduction to Probability and Statistics (3) *

*Note: STAT 2122 may be replaced by the sequence STAT 3122 and STAT 3123, or by STAT 3128.

**Concentration Courses (12 credit hours)**

*Select one from the following:*
STAT 3110 - Applied Regression (3)
STAT 2223 - Elements of Statistics II (3)

*AND select three from the following:*
STAT 3140 - Design of Experiments (3)
STAT 3150 - Time Series Analysis (3)
STAT 3160 - Applied Multivariate Analysis (3)
STAT 3180 - Predictive Analytics (3)
STAT 4115 - Statistical Machine Learning (3)
STAT 4116 - Statistical Computing (3)

**Capstone Project (3-6 credit hours)**

Students must complete a Senior Project capstone. Alternatively, students may complete 6 credit hours towards an Honors project. For more information on the Honors Program in Mathematics, visit the program's page.

MATH 3689 - Mathematics Senior Project Seminar (3)
*or the sequence:*
MATH 3790 - Junior Honors Seminar (3)
MATH 3791 - Senior Honors Tutorial (3)

**Related Elective Courses or a Minor (18 credit hours)**

Select 18 credit hours of electives in related courses. Elective courses should be chosen from related disciplines or an approved minor in another discipline. Courses that count towards this requirement must have a discipline prefix other than MATH, STAT, or OPRS. Students should select courses in consultation with the department and/or their advisor.

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements

An overall GPA of at least 2.0 and a GPA of at least 2.0 in all math courses is required.

# Bachelor of Arts in Mathematics, Teacher Licensure

To meet North Carolina requirements to teach Mathematics at the secondary level (grades 9-12), students must complete a Major in Mathematics and a Minor in Secondary Education.

All program-level Admissions and Progression Requirements are in addition to the University of North Carolina at Charlotte Admission Requirements.

## Admission Requirements

**Freshmen and Transfers**

- See University Admission Requirements
- *Minimum GPA*: 2.0
- *Prerequisite Courses*: GPA of at least 2.0 in each of the following categories:
  - All MATH, STAT, and OPRS courses taken
  - All 2000-level and above MATH, STAT, and OPRS courses taken
- *Transferable Credit Hours*: 24

**Currently Enrolled Students**

- *Declaration of Major*: Change of Major forms accepted year-round. Forms are available on the Math Department website. Orientation/advising session is required after declaration.

## Degree Requirements

The B.A. in Mathematics degree with a Minor in Secondary Education prepares students for licensure to teach mathematics in secondary school (grades 9-12).

The B.A. in Mathematics degree consists of a minimum of 40 credit hours of core courses in Mathematics (MATH) and Statistics (STAT),

including 4 credits of one programming course in computer science (ITSC).

To declare the Minor in Secondary Education, students should first complete MDSK 2100 with a grade of C or above, and obtain an application for formal admission to the teacher education program in the Department of Middle, Secondary, and K-12 Education. The minor in Secondary Education consists of 35 credit hours, including a dedicated semester of student teaching.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information. Students with a BA in Mathematics major should plan on taking the following courses that meet both General Education and major requirements:

MATH 1241 - Calculus I (3)
MATH 1242 - Calculus II (3)

**Major Courses (40 credit hours)**
***Core Courses (28 credit hours)***
ITSC 1212 - Introduction to Computer Science I (4)
MATH 1241 - Calculus I (3)
MATH 1242 - Calculus II (3)
MATH 2164 - Matrices and Linear Algebra (3)
MATH 2167 - Introduction to Mathematical Reasoning (3)
MATH 2171 - Differential Equations (3)
MATH 2241 - Calculus III (3)
MATH 2242 - Calculus IV (3)
MATH 3163 - Introduction to Modern Algebra (3)

***Restricted Elective Courses (12 credit hours)***
Select 12 credit hours of approved courses from MATH, STAT, or OPRS at the 3000-level or above.

**Required Courses for Teacher Licensure**
Coursework for students pursuing a Teacher Licensure to teach mathematics in secondary school (grades 9-12) must include:
MAED 4103 - Using Technology to Teach Secondary School Mathematics (3)
MAED 4105 - High School Mathematics from an Advanced Standpoint (3)
MAED 4252 - Teaching Mathematics to Secondary School Learners (3)
MATH 3181 - Fundamental Concepts of Geometry (3)
MATH 4109 - History of Mathematical Thought (3)
Statistics course (any STAT)

*Note:* Students may double-count MATH 3181, MATH 4109, and STAT 3122 towards the Major Courses and the Required Courses for Teacher Licensure.

**Minor in Secondary Education (35 credit hours)**
For details on required courses, refer to the Minor in Secondary Education program. Students preparing to teach mathematics should choose MAED 4252 as their Methods Course. Note that the MAED 4252 prerequisites are MDSK 3100, MDSK 3151, MDSK 4210, and SECD 4140.

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Progression Requirements
The BA in Mathematics requires an overall GPA of at least 2.0 and a GPA of at least 2.0 in all math major courses is required.

Students in the minor in Secondary Education require an overall GPA of 2.50 or above in the student's total program of study for Student Teaching.

### Degree Total = 120 Credit Hours

## Bachelor of Science in Mathematics
The Department of Mathematics and Statistics offers an undergraduate program of study leading to a Bachelor of Science (B.S.) degree in Mathematics. Mathematics majors study relationships and patterns between numbers, structures, and processes. Our students graduate with a well-rounded education and the appropriate preparation for math-related careers or research.

### Admission Requirements
**Freshmen and Transfers**
- See University Admission Requirements
- *Minimum GPA*: 2.0
- *Prerequisite Courses:* GPA of at least 2.0 in each of the following categories:
  - All MATH, STAT, and OPRS courses taken
  - All 2000-level and above MATH, STAT, and OPRS courses taken
- *Transferable Credit Hours:* 24

**Currently Enrolled Students**
- *Declaration of Major:* Change of Major forms accepted year-round. Forms are available on the Math Department website. Orientation/advising session is required after declaration.

### Degree Requirements
The B.S. in Mathematics degree consists of a minimum of 43 credit hours of approved Mathematics (MATH), Operations Research (OPRS), or Statistics (STAT) courses, one programming course in computer science (ITSC), 11 credit hours of science electives, and 18 credit hours of approved related coursework in an area outside of the department or an approved University minor from outside the department.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as

some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Major Courses (50-53 credit hours)**
**Core Courses (minimum 35 credit hours)**
ITCS 1212 - Introduction to Computer Science (4)
MATH 1241 - Calculus I (3)
MATH 1242 - Calculus II (3)
MATH 2164 - Matrices and Linear Algebra (3)
MATH 2167 - Introduction to Mathematical Reasoning (3)
MATH 2171 - Differential Equations (3)
MATH 2241 - Calculus III (3)
MATH 2242 - Calculus IV (3)
MATH 2688 - Mathematics Awareness Seminar (1)
MATH 3141 - Advanced Calculus of One Variable (3)
MATH 3142 - Advanced Calculus of Several Variables (3)
MATH 3163 - Introduction to Modern Algebra (3)

And at least one from the following:
MATH 3123 - Probability and Statistics II (3)
or STAT 3123 - Probability and Statistics II (3)
MATH 4163 - Modern Algebra (3)
MATH 4164 - Abstract Linear Algebra (3)
MATH 4181 - Introduction to Topology (3)

**Restricted Elective Courses (12 credit hours)**
Select 12 credit hours of approved courses from MATH, STAT, or OPRS at the 3000-level or above, including:

*One from the following:*
MATH 3122 - Probability and Statistics I (3)
STAT 3122 - Probability and Statistics I (3)
STAT 3128 - Probability and Statistics for Engineers (3)

*One from the following:*
MATH 3116 - Graph Theory (3)
MATH 3146 - Introduction to Complex Analysis (3)
MATH 3166 - Combinatorics (3)
MATH 3181 - Fundamental Concepts of Geometry (3)
MATH 4161 - Number Theory (3)
MATH 4163 - Modern Algebra (3)
MATH 4164 - Abstract Linear Algebra (3)
MATH 4181 - Introduction to Topology (3)

And two from any MATH, STAT, or OPRS 3xxx or 4xxx level.

**Capstone Project (3-6 credit hours)**
Students must complete a Senior Project capstone. Alternatively, students may complete 6 credit hours towards an Honors project. For more information on the Honors Program in Mathematics, visit the program's page.

MATH 3689 - Mathematics Senior Project Seminar (3)
*or the sequence:*
MATH 3790 - Junior Honors Seminar (3)
MATH 3791 - Senior Honors Tutorial (3)

**Science Elective Courses (11 credit hours)**
Select a minimum of 11 credit hours of approved science courses. Any science course from BIOL, CHEM, ESCI, GEOL, or PHYS is permissible.

**Related Elective Courses or a Minor (18 credit hours)**
Select 18 credit hours of electives in related courses. Elective courses should be chosen from related disciplines or an approved minor in another discipline. Courses that count towards this requirement must have a discipline prefix other than MATH, STAT, or OPRS. Students should select courses in consultation with the department and/or their advisor.

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

### Progression Requirements
An overall GPA of at least 2.0 and a GPA of at least 2.0 in all math courses is required.

## Bachelor of Science in Mathematics *with Concentration in Actuarial Science*
The Department of Mathematics and Statistics offers an undergraduate program of study leading to a Bachelor of Science (B.S.) degree in Mathematics with a Concentration in Actuarial Science. This program provides students a comprehensive course of study to learn the concepts and skills needed to begin a career path in actuarial science. Actuaries are employed by insurance companies, government agencies, health service organizations, large corporations, and consulting firms. Actuaries design and price insurance policies and pension programs. Coursework in this program provides students with the core foundation for several of the professional actuarial exams. Required courses in economics, finance, and applied statistical methods also meet the Society of Actuaries requirements for Validation by Educational Experience (VEE).

## Admission Requirements

### Freshmen and Transfers

- See University Admission Requirements
- *Minimum GPA*: 2.0
- *Prerequisite Courses:* GPA of at least 2.0 in each of the following categories:
    - All MATH, STAT, and OPRS courses taken
    - All 2000-level and above MATH, STAT, and OPRS courses taken
- *Transferable Credit Hours:* 24

### Currently Enrolled Students

- *Declaration of Major:* Change of Major forms accepted year-round. Forms are available on the Math Department website. Orientation/advising session is required after declaration.

## Degree Requirements

The B.S. in Mathematics with a Concentration in Actuarial Science degree program consists of a minimum of 52 credit hours of mathematics and statistics courses, one programming course in computer science, and 12 credit hours of related courses for VEE (Validation of Educational Experience) credit and Technical Skills.

### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

### Major Courses (58-61 credit hours)

### Core Courses (25 credit hours)

ITSC 1212 - Introduction to Computer Science I (4)
MATH 1241 - Calculus I (3)
MATH 1242 - Calculus II (3)
MATH 2164 - Matrices and Linear Algebra (3)
MATH 2167 - Introduction to Mathematical Reasoning (3)
MATH 2171 - Differential Equations (3)
MATH 2241 - Calculus III (3)
MATH 2242 - Calculus IV (3)

### Concentration Courses (30 credit hours)

MATH 3227 - Mathematical Theory of Interest and Applications (3)
MATH 3228 - Financial Mathematics and General Cash Flows (3)
MATH 4051 - Computer Exploration and Generation of Data (3)
MATH 4228 - Life Insurance Mathematics (3)
MATH 4229 - Advanced Life Insurance Mathematics (3)
STAT 3110 - Applied Regression (3)
STAT 3122 - Probability and Statistics I (3)
STAT 3123 - Probability and Statistics II (3)
STAT 3150 - Time Series Analysis (3)
STAT 4227 - Loss Models and Applications (3)

### Capstone Project (3-6 credit hours)

Students must complete a Senior Project capstone. Alternatively, students may complete 6 credit hours towards an Honors project. For more information on the Honors Program in Mathematics, visit the program's page.

MATH 3689 - Mathematics Senior Project Seminar (3)
*or the sequence:*
MATH 3790 - Junior Honors Seminar (3)
MATH 3791 - Senior Honors Tutorial (3)

### Business Elective Courses (12 credit hours)

*Select four from the following:*
ACCT 2121 - Principles of Accounting I (3)
ACCT 2122 - Principles of Accounting II (3)
ECON 2101 - Principles of Economics - Macro (3)
ECON 2102 - Principles of Economics - Micro (3)
FINN 3120 - Financial Management (3)
FINN 3271 - Principles of Risk Management and Insurance (3)
INFO 2130 - Introduction to Business Computing (3)

### Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Actuarial Exam and VEE Credit Preparation

The following courses prepare students for the following Actuarial Exams and VEE credits:

### Exam FM - Financial Mathematics

- MATH 3227 - Mathematical Theory of Interest and Applications (3)
- MATH 3228 - Financial Mathematics and General Cash Flows (3)

### Exam P - Probability

- STAT 3122 - Probability and Statistics I (3)
- STAT 3123 - Probability and Statistics II (3)

### Exam FAM - Fundamentals of Actuarial Mathematics

- MATH 4228 - Life Insurance Mathematics (3)
- STAT 4227 - Loss Models and Applications (3)

### Exam ALTAM - Advanced Long Term Actuarial Mathematics

- MATH 4229 - Advanced Life Insurance Mathematics (3)

### Exam SRM - Statistics for Risk Modeling

- STAT 3110 - Applied Regression (3)
- STAT 3150 - Time Series Analysis (3)

### VEE Mathematical Statistics

- STAT 3123 - Probability and Statistics II (3)

### VEE Economics

- ECON 2101 - Principles of Economics - Macro (3)
- ECON 2102 - Principles of Economics - Micro (3)

### VEE Accounting and Finance

- ACCT 2121 - Principles of Accounting I (3)
- FINN 3120 - Financial Management (3)

## Degree Total = 120 Credit Hours

### Progression Requirements
An overall GPA of at least 2.0 and a GPA of at least 2.0 in all math courses is required.

### Cooperative Education Program
Students may participate in the Mathematics Cooperative Education Program in either the parallel or alternate track. The parallel track combines part-time academic study and part-time cooperative experience during the same semester, while the alternate track alternates semesters totally devoted to work with semesters totally devoted to academic study. Students in the Mathematics Cooperative Education Program must participate in a minimum of two semesters in the program. Students who are in good standing with the University, have a minimum overall GPA of 2.5, and have completed 30 credit hours are eligible to apply. Transfer students are required to complete 12 credit hours at the University prior to application. Students interested in participating in the program should contact the Coordinator of Undergraduate Programs in the Department of Mathematics and Statistics or the University Career Center for information.

# Bachelor of Science in Mathematics *with Concentration in Statistics and Data Science*
The Department of Mathematics and Statistics offers an undergraduate program of study leading to a Bachelor of Science (B.S.) degree in Mathematics with a Concentration in Statistics and Data Science. Math majors in the Statistics and Data Science concentration receive a rigorous education that integrates mathematical theory, statistical reasoning, and advanced machine learning models and data analysis, that prepares students for careers in a wide variety of industries and graduate studies.

### Admission Requirements
#### Freshmen and Transfers
- See University Admission Requirements
- *Minimum GPA*: 2.0
- *Prerequisite Courses:* GPA of at least 2.0 in each of the following categories:
  - All MATH, STAT, and OPRS courses taken
  - All 2000-level and above MATH, STAT, and OPRS courses taken
- *Transferable Credit Hours:* 24

#### Currently Enrolled Students
- *Declaration of Major:* Change of Major forms accepted year-round. Forms are available on the Math Department website. Orientation/advising session is required after declaration.

### Degree Requirements
A Bachelor of Science degree in Mathematics with a Concentration in Statistics and Data Science consists of 26 credit hours of core Mathematics courses in calculus, linear algebra and mathematical analysis; 21 hours of concentration courses in probability and statistics, linear regression, numerical linear algebra, optimization, and statistical machine learning; 12 hours of upper-level electives in mathematics and statistics and 14 hours of computer and data science electives.

#### General Education Courses (31-32 credit hours)
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

#### Major Courses (62-65 credit hours)
#### Core Courses (26 credit hours)
ITSC 1212 - Introduction to Computer Science I (4)
MATH 1241 - Calculus I (3)
MATH 1242 - Calculus II (3)
MATH 2241 - Calculus III (3)
MATH 2242 - Calculus IV (3)
MATH 2164 - Matrices and Linear Algebra (3)
MATH 2167 - Introduction to Mathematical Reasoning (3)
MATH 2688 - Mathematics Awareness Seminar (1)
MATH 3141 - Advanced Calculus of One Variable (3)

#### Concentration Courses (21 credit hours)
MATH 4165 - Numerical Linear Algebra (3)
MATH 4175 - Mathematical Foundations of Optimization (3)
STAT 3110 - Applied Regression (3)
STAT 3122 - Probability and Statistics I (3)
STAT 3123 - Probability and Statistics II (3)
STAT 3160 - Applied Multivariate Analysis (3)
STAT 4115 - Statistical Machine Learning (3)

#### Restricted Elective Courses (12 credit hours)
*Choose three from the following courses:*
MATH 3142 - Advanced Calculus of Several Variables (3)
STAT 3140 - Design of Experiments (3)
STAT 3150 - Time Series Analysis (3)
STAT 4116 - Statistical Computing (3)
Choose one from any MATH or STAT, 3xxx or 4xxx level.

#### Capstone Project (3-6 credit hours)
Students must complete a Senior Project capstone. Alternatively, students may complete 6 credit hours towards an Honors project. For more information on the Honors Program in Mathematics, visit the program's page.

MATH 3689 - Mathematics Senior Project Seminar (3)
*or the sequence:*
MATH 3790 - Junior Honors Seminar (3)
MATH 3791 - Senior Honors Tutorial (3)

#### Computer and Data Science Elective Courses (14 credit hours)
ITCS 3156 - Introduction to Machine Learning (3)
ITCS 3162 - Introduction to Data Mining (3)
ITCS 3190 - Introduction to Cloud Computing for Data Analysis (3)
ITCS 4101 - Introduction to Natural Language Processing (3)
ITSC 1213 - Introduction to Computer Science II (4)
ITSC 2214 - Data Structures and Algorithms (4)
ITSC 3160 - Database Design and Implementation (3)

#### Unrestricted Elective Courses, Double Major and/or Minor to

**Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

### Progression Requirements
An overall GPA of at least 2.0 and a GPA of at least 2.0 in all math courses is required.

## Bachelor of Science in Mathematics, Teacher Licensure
To meet North Carolina requirements to teach Mathematics at the secondary level (grades 9-12), students must complete a Major in Mathematics and a Minor in Secondary Education.

All program-level Admissions and Progression Requirements are in addition to the University of North Carolina at Charlotte Admission Requirements.

### Admission Requirements
**All Students**
**Freshmen and Transfers**
- See University Admission Requirements
- *Minimum GPA*: 2.0
- *Prerequisite Courses*: GPA of at least 2.0 in each of the following categories:
  - All MATH, STAT, and OPRS courses taken
  - All 2000-level and above MATH, STAT, and OPRS courses taken
- *Transferable Credit Hours*: 24

**Currently Enrolled Students**
- *Declaration of Major*: Change of Major forms accepted year-round. Forms are available on the Math Department website. Orientation/advising session is required after declaration.

### Degree Requirements
The B.S. in Mathematics degree with a Minor in Secondary Education prepares students for licensure to teach mathematics in secondary school (grades 9-12).

The B.S. in Mathematics degree consists of a minimum of 46 credit hours of core courses in Mathematics (MATH) and Statistics (STAT), including 4 credits of one programming course in computer science (ITSC).

To declare the Minor in Secondary Education, students should first complete MDSK 2100 with a grade of C or above, and obtain an application for formal admission to the teacher education program in the Department of Middle, Secondary, and K-12 Education. The minor in Secondary Education consists of 35 credit hours, including a dedicated semester of student teaching.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information. Students with a BS in Mathematics major should plan on taking the following courses that meet both General Education and major requirements:

MATH 1241 - Calculus I (3)
MATH 1242 - Calculus II (3)
Any science course from BIOL, CHEM, ESCI, GEOL, or PHYS approved towards the Natural Sciences requirement (can double-count up to 7 credits towards the Science Elective Courses).

**Major Courses (46 credit hours)**
***Core Courses (34 credit hours)***
ITSC 1212 - Introduction to Computer Science I (4)
MATH 1241 - Calculus I (3)
MATH 1242 - Calculus II (3)
MATH 2164 - Matrices and Linear Algebra (3)
MATH 2167 - Introduction to Mathematical Reasoning (3)
MATH 2171 - Differential Equations (3)
MATH 2241 - Calculus III (3)
MATH 2242 - Calculus IV (3)
MATH 3141 - Advanced Calculus of One Variable (3)
MATH 3142 - Advanced Calculus of Several Variables (3)
MATH 3163 - Introduction to Modern Algebra (3)

***Restricted Elective Courses (12 credit hours)***
Select 12 credit hours of approved courses from MATH, STAT, or OPRS at the 3000-level or above, including:

*One from the following:*
STAT 3122 - Probability and Statistics I (3)
or STAT 3128 - Probability and Statistics for Engineers (3)

*One from the following:*
MATH 3116 - Graph Theory (3)
MATH 3146 - Introduction to Complex Analysis (3)
MATH 3166 - Combinatorics (3)
MATH 3181 - Fundamental Concepts of Geometry (3)
MATH 4161 - Number Theory (3)
MATH 4163 - Modern Algebra (3)
MATH 4164 - Abstract Linear Algebra (3)
MATH 4181 - Introduction to Topology (3)

And two from any MATH, STAT, or OPRS 3xxx or 4xxx level.

**Science Elective Courses (11 credit hours)**
Select a minimum of 11 credit hours of approved science courses. Any science course from BIOL, CHEM, ESCI, GEOL, or PHYS is permissible.

**Required Courses for Teacher Licensure**
Coursework for students pursuing a Teacher Licensure to teach mathematics in secondary school (grades 9-12) must include:

MAED 4103 - Using Technology to Teach Secondary School

Mathematics (3)
MAED 4105 - High School Mathematics from an Advanced Standpoint (3)
MAED 4252 - Teaching Mathematics to Secondary School Learners (3)
MATH 3181 - Fundamental Concepts of Geometry (3)
MATH 4109 - History of Mathematical Thought (3)
Statistics Course (any STAT)

*Note:* Students may double-count MATH 3181, MATH 4109, and STAT 3122 or STAT 3128 towards the Major Courses and the Required Courses for Teacher Licensure.

**Minor in Secondary Education (35 credit hours)**
For details on required courses, refer to the Minor in Secondary Education program. Students preparing to teach mathematics should choose MAED 4252 as their Methods Course. Note that the MAED 4252 prerequisites are MDSK 3100, MDSK 3151, MDSK 4210, and SECD 4140.

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Honors Program
For details about the Honors Program in Mathematics, visit the program page.

## Progression Requirements
The BS in Mathematics requires an overall GPA of at least 2.0 and a GPA of at least 2.0 in all math major courses is required.
Students in the minor in Secondary Education require an overall GPA of 2.50 or above in the student's total program of study for Student Teaching.

# Bachelor of Arts in Mathematics for Business
The Department of Mathematics and Statistics offers an undergraduate program of study leading to a Bachelor of Arts (B.A.) degree in Mathematics for Business. This degree is a practical applied mathematics program that provides the flexibility that students need to choose from a variety of career paths in the corporate and commercial world, including banking, investment, and insurance agencies.

## Admission Requirements
**Freshmen and Transfers**
- See University Admission Requirements
- *Minimum GPA*: 2.0
- *Prerequisite Courses:* GPA of at least 2.0 in each of the following categories:
  - All MATH, STAT, and OPRS courses taken
  - All 2000-level and above MATH, STAT, and OPRS courses taken
- *Transferable Credit Hours:* 24

**Currently Enrolled Students**
- *Declaration of Major:* Change of Major forms accepted year-round. Forms are available on the Math Department website. Orientation/advising session is required after declaration.

## Degree Requirements
A Major in Mathematics for Business for the B.A. degree consists of a minimum of 36 hours of approved Mathematics (MATH), Operations Research (OPRS), or Statistics (STAT) courses, one programming course in Computer Science (ITCS), and 18 hours of approved related coursework in an area outside of the department or an approved University minor from outside the department.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Major Courses (41-44 credit hours)**
***Core Courses (31-34 credit hours)***
ITSC 1212 - Introduction to Computer Science I (4)
MATH 1120 - Calculus (3)*
MATH 2120 - Intermediate Applied Calculus (3)*
MATH 2164 - Matrices and Linear Algebra (3)
MATH 2688 - Mathematics Awareness Seminar (1)
MATH 3227 - Mathematical Theory of Interest and Applications (3)
MATH 4051 - Computer Exploration and Generation of Data (3)
OPRS 3111 - Operations Research: Deterministic Models (3)
STAT 1220 - Elements of Statistics I (BUSN) (3)
STAT 2223 - Elements of Statistics II (3)
or STAT 3110 - Applied Regression (3)
STAT 3150 - Time Series Analysis (3)

*Note: MATH 1120 and MATH 2120 may be replaced by the three-course sequence MATH 1241, MATH 1242, and MATH 2241. Also, MATH 1120 is

not equivalent to MATH 1241, and MATH 2120 is not equivalent to MATH 1242.

***Restricted Elective Courses (9 credit hours)***
Select 9 credit hours of approved courses from MATH, STAT, or OPRS at the 3000-level or above.

**Business Elective Courses (9 credit hours)**
*Select three from the following:*
ACCT 2121 - Principles of Accounting I (3)
ACCT 2122 - Principles of Accounting II (3)
ECON 2101 - Principles of Economics - Macro (3)
ECON 2102 - Principles of Economics - Micro (3)
INFO 2130 - Introduction to Business Computing (3)

**Related Elective Courses or a Minor (18 credit hours)**
Select 18 credit hours of electives in related courses. Elective courses should be chosen from related disciplines or an approved minor in another discipline. Students should select courses in consultation with the department and/or their advisor. Students can double count courses in a minor and the Business electives.

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements
An overall GPA of at least 2.0 and a GPA of at least 2.0 in all math courses is required.

# Bachelor of Science in Mathematics for Business
The Department of Mathematics and Statistics offers an undergraduate program of study leading to a Bachelor of Science (B.S.) degree in Mathematics for Business. This degree is a practical applied mathematics program that tightens the focus on business applications to better prepare students for a successful career path in the areas of insurance, finance, banking, and economics. Graduates of the Mathematics for Business program are valuable assets to the business community. They bring expertise in Mathematics, Statistics, and Operation Research, along with excellent analytic skills to businesses, financial institutions, insurance firms, and government agencies.

## Admission Requirements
**Freshmen and Transfers**
- See University Admission Requirements
- *Minimum GPA*: 2.0
- *Prerequisite Courses:* GPA of at least 2.0 in each of the following categories:
  - All MATH, STAT, and OPRS courses taken
  - All 2000-level and above MATH, STAT, and OPRS courses taken
- *Transferable Credit Hours:* 24

**Currently Enrolled Students**
- *Declaration of Major:* Change of Major forms accepted year-round. Forms are available on the Math Department website. Orientation/advising session is required after declaration.

## Degree Requirements
A Major in Mathematics for Business for the B.S. degree consists of a minimum of 48 hours of approved Mathematics (MATH), Operations Research (OPRS), or Statistics (STAT) courses, one programming course in Computer Science (ITCS), and 18 hours of Business related coursework.

**General Education Courses (31-32 credit hours)**
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Major Courses (53 credit hours)**

**Core Courses (41 credit hours)**
ITSC 1212 - Introduction to Computer Science I (4)
MATH 1241 - Calculus I (3)
MATH 1242 - Calculus II (3)
MATH 2164 - Matrices and Linear Algebra (3)
MATH 2171 - Differential Equations (3)
MATH 2241 - Calculus III (3)
MATH 2688 - Mathematics Awareness Seminar (1)
MATH 3227 - Mathematical Theory of Interest and Applications (3)
MATH 4051 - Computer Exploration and Generation of Data (3)
OPRS 3111 - Operations Research: Deterministic Models (3)
OPRS 3113 - Operations Research: Probabilistic Models (3)
STAT 3110 - Applied Regression (3)
STAT 3122 - Probability and Statistics I (3)
STAT 3123 - Probability and Statistics II (3)

**Concentration Courses (12 credit hours)**
Students majoring in Mathematics for Business must select one of the following concentrations:

***Concentration in Economics/Finance***
Required Courses
MATH 4122 - Probability and Stochastic Models (3)
MATH 4128 - Risk Theory (3)
STAT 3150 - Time Series Analysis (3)

Elective Course
*Select one of the following:*
MATH 3xxx - Mathematics Elective (3)
MATH 4xxx - Mathematics Elective (3)
STAT 3xxx - Statistics Elective (3)
STAT 4xxx - Statistics Elective (3)
OPRS 3xxx - Operations Research Elective (3)
OPRS 4xxx - Operations Research Elective (3)

***Concentration in Actuarial Science***
Required Courses
MATH 3228 - Financial Mathematics and General Cash Flows (3)
MATH 4228 - Life Insurance Mathematics (3)
STAT 3150 - Time Series Analysis (3)

Elective Course
*Select one of the following:*
MATH 3xxx - Mathematics Elective (3)
MATH 4xxx - Mathematics Elective (3)
STAT 3xxx - Statistics Elective (3)
STAT 4xxx - Statistics Elective (3)
OPRS 3xxx - Operations Research Elective (3)
OPRS 4xxx - Operations Research Elective (3)

*Notes:*
Recommended Actuarial courses:
MATH 4229 - Advanced Life Insurance Mathematics (3)
STAT 3180 – Predictive Analytics (3)
STAT 4227 – Loss Models and Applications (3)

The following courses prepare students for the following Actuarial Exams and VEE credits:

**Exam FM**
- MATH 3227 - Mathematical Theory of Interest and Applications (3)
- MATH 3228 - Financial Mathematics and General Cash Flows (3)

**Exam P**
- STAT 3122 - Probability and Statistics I (3)
- STAT 3123 - Probability and Statistics II (3)

**Exam FAM**
- MATH 4228 - Life Insurance Mathematics (3)
- STAT 4227 - Loss Models and Applications (3)

**Exam ALTAM**
- MATH 4229 - Advanced Life Insurance Mathematics (3)

**Exam SRM**
- STAT 3110 - Applied Regression (3)
- STAT 3150 - Time Series Analysis (3)

**VEE Statistics**
- STAT 3123 - Probability and Statistics II. (3)

**VEE Economics**
- ECON 2101 - Principles of Economics - Macro (3)
- ECON 2102 - Principles of Economics - Micro (3)

**VEE Accounting and Financial Management**
- ACCT 2121 - Principles of Accounting I (3)
- FINN 3120 - Financial Management (3)

**Business Courses (18 credit hours)**
ACCT 2121 - Principles of Accounting I (3)
ACCT 2122 - Principles of Accounting II (3)
ECON 2101 - Principles of Economics - Macro (3)
ECON 2102 - Principles of Economics - Micro (3)
FINN 3120 - Financial Management (3)
INFO 2130 - Introduction to Business Computing (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

### Progression Requirements
An overall GPA of at least 2.0 and a GPA of at least 2.0 in all math courses is required.

## Minor in Actuarial Mathematics
An actuary is a business professional who uses mathematical skills to aid in the design and pricing of insurance policies and pension programs. Actuaries are employed by insurance companies, government agencies, health service organizations, large corporations, and consulting firms.

### Admission Requirements
**Current UNC Charlotte Undergraduate Students**
See University Admissions Requirements

### Minor Requirements
A Minor in Actuarial Mathematics requires 21 credit hours.

**Required Courses (21 credit hours)**
MATH 1241 - Calculus I (3)
MATH 1242 - Calculus II (3)
MATH 2164 - Matrices and Linear Algebra (3)
MATH 2241 - Calculus III (3)
MATH 3122 - Probability and Statistics I (3)
or STAT 3122 - Probability and Statistics I (3)
or STAT 3128 - Probability and Statistics for Engineers (3)
MATH 3227 - Mathematical Theory of Interest and Applications (3)
MATH 3228 - Financial Mathematics and General Cash Flows (3)

### Minor Total = 21 Credit Hours

### Progression Requirements
A minimum GPA of at least 2.0 in all courses is required.

### Special Policies or Requirements
**Actuarial Examinations**
Completion of these courses helps prepare students for the first two actuarial examinations administered by the Society of Actuaries and the Casualty Actuarial Society. The first actuarial exam should be taken after completing MATH 3122 or MATH 3123, and the second examination after completing MATH 3228. Further examinations cover material contained in MATH 4228 (Life Insurance Mathematics).

# Minor in Mathematics

A Minor in Mathematics requires 18 credit hours. The minor consists of 6 credits of calculus courses, 6 credits of required courses that should be selected depending on career interests, and 6 credits of upper-level MATH, STAT or OPRS.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

## Minor Requirements

**Required Courses (9 credit hours)**
MATH 1241 - Calculus I (3)
MATH 1242 - Calculus II (3)
MATH 2164 - Matrices and Linear Algebra (3)
or MATH 2171 - Differential Equations (3)
or MATH 2241 - Calculus III (3)

**Restricted Elective Course (3 credit hours)**
*Select one of the following:*
MATH 2241 - Calculus III (3)
MATH 2242 - Calculus IV (3)
MATH 2164 - Matrices and Linear Algebra (3)
MATH 2167 - Introduction to Mathematical Reasoning (3)
MATH 2171 - Differential Equations (3)
STAT 2122 - Introduction to Probability and Statistics (3)
MATH 3xxx-4xxx - Mathematics Elective (3)
STAT 3xxx-4xxx - Statistics Elective (3)
OPRS 3xxx-4xxx - Operations Research Elective (3)

Note: Typically, a focus on pure math requires MATH 2164 and MATH 2167. A focus on applied math requires MATH 2171 and/or MATH 2241; and a focus on statistics requires MATH 2164 and/or STAT 2122.

**Unrestricted Elective Courses (6 credit hours)**
*Select two of the following:*
MATH 3xxx-4xxx - Mathematics Elective (3)
STAT 3xxx-4xxx - Statistics Elective (3)
OPRS 3xxx-4xxx - Operations Research Elective (3)

## Minor Total = 18 Credit Hours

## Progression Requirements

A minimum GPA of at least 2.0 in all courses is required.

# Minor in Statistics

The Minor in Statistics offers undergraduates pursuing a major in another department the opportunity to deepen their knowledge of statistics beyond their regular coursework. Students can complement their major with statistics electives to match their interests and career goals.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**
See University Admission Requirements

## Minor Requirements

**Calculus Courses (6 credit hours)**
*First Calculus course. Select one of the following:*
MATH 1120 - Calculus (3)
MATH 1121 - Calculus for Engineering Technology (3)
MATH 1241 - Calculus I (3)

*Second Calculus course. Select one of the following:*
MATH 2120 - Intermediate Applied Calculus (3)
MATH 1242 - Calculus II (3)

**Statistics Courses (9 credit hours)**
*Introductory Calculus course. Select one of the following:*
STAT 1220 - Elements of Statistics I (BUSN) (3)
STAT 1221 - Elements of Statistics I (3)
STAT 1222 - Introduction to Statistics (3)
STAT 2122 - Introduction to Probability and Statistics (3)

*Intermediate Calculus course. Required Course:*
STAT 2223 - Elements of Statistics II (3)
STAT 3110 - Applied Regression (3)

*Upper-level elective. Select one of the following:*
STAT 3140 - Design of Experiments (3)
STAT 3150 - Time Series Analysis (3)
STAT 3160 - Applied Multivariate Analysis (3)

**Major Course (3 credit hours)**
*Select one course from the student's major:*
BINF 2121 - Statistics for Bioinformatics (3)
CJUS 2370 - Research Methods in Criminal Justice (4)
COMM 3100 - Communication Research Methods (3)
ECON 3112 - Econometrics (3)
OPER 3206 - Quality Assurance and Management (3)
POLS 2220 - Political Science Methods (4)
HLTH 3104 - Research and Statistics in Health (3)
SOWK 3900 - Social Work Research I (3)
SOCY 4156 - Quantitative Analysis (4)

*If a student's major does not require a course from the list above, then select one from the following:*
STAT 3110 - Applied Regression (3)
STAT 3140 - Design of Experiments (3)
STAT 3150 - Time Series Analysis (3)
STAT 3160 - Applied Multivariate Analysis (3)
STAT 3180 – Predictive Analytics (3)

## Minor Total = 18 Credit Hours

# Undergraduate Certificate in Actuarial Studies

An actuary is a business professional who uses mathematical skills to aid in the design and pricing of insurance policies and pension programs. Actuaries are employed by insurance companies,

government agencies, health service organizations, large corporations, and consulting firms.

The Certificate in Actuarial Studies prepares undergraduate and post-baccalaureate students for a career as an actuary. The coursework provides students with the background knowledge that they need to successfully pass two or three of the professional actuarial exams and obtain Validation by Educational Experience (VEE) credit that is required to become an Associate of the Society of Actuaries (SOA) or the Casualty Actuarial Society (CAS). Coursework towards the Certificate in Actuarial Studies can be used for credit towards the Bachelor's degree in Mathematics. Students in the certificate program have access to resources provided by the UNC Charlotte Actuarial Science program, such as information sessions by employers, presentations by actuaries, and networking events. The certificate may be pursued concurrently with any of the undergraduate degree programs at UNC Charlotte.

## Admission Requirements

### Current UNC Charlotte Undergraduate Students

To be admitted into the Certificate in Actuarial Studies program, students who already have completed a Bachelor's degree must meet the University requirements for admission into undergraduate certificate programs. See University Admission Requirements.

Their undergraduate coursework must include Calculus I, II, III or equivalent courses. For students in either the B.A. or B.S. in Mathematics or the B.S. in Math for Business programs at UNC Charlotte, a form to declare the certificate is available on the Department of Mathematics and Statistics webpage.

## Certificate Requirements

The certificate requires 18 credit hours of mathematics and Statistics coursework that prepare students for Actuarial Exams and VEE Credits. Note that MATH 3227 and MATH 3228 are prep courses for Exam FM - Financial Mathematics, STAT 3122 and STAT 3123 for Exam P and VEE Probability, MATH 4228 and STAT 4227 for Exam FAM – Fundamentals of Actuarial Mathematics, MATH 4229 for Exam ALTAM – Advanced Long Term Actuarial Mathematics, and STAT 3110 and STAT 3150 for Exam SRM – Statistics for Risk Modeling.

### Core Courses (12 credit hours)

MATH 3227 - Mathematical Theory of Interest and Applications (3)
MATH 3228 - Financial Mathematics and General Cash Flows (3)
MATH 4228 - Life Insurance Mathematics (3)
STAT 3122 - Probability and Statistics I (3)

### Elective Courses (6 credit hours)

*Select two of the following:*
MATH 4051 - Computer Exploration and Generation of Data (3)
MATH 4229 - Advanced Life Insurance Mathematics (3)
STAT 3110 - Applied Regression (3)
STAT 3123 - Probability and Statistics II (3)
STAT 3150 - Time Series Analysis (3)
STAT 3180 – Predictive Analytics (3)
STAT 4227 – Loss Models and Applications (3)

### Optional Courses

*Students registered in the Certificate for Actuarial Studies program are eligible and encouraged to take additional courses for VEE Credits and Technical Skills from the following:*
ACCT 2121 - Principles of Accounting I (3)
ECON 2101 - Principles of Economics - Macro (3)
ECON 2102 - Principles of Economics - Micro (3)
FINN 3120 - Financial Management (3)
MATH 4128 - Risk Theory (3)
STAT 4116 - Statistical Computing (3)

### Certificate Total = 18 Credit Hours

# Honors Program in Mathematics

The honors program in mathematics stimulates the imagination and deepen the understanding of students by encouraging independent study, and to provide recognition of exceptional achievements in mathematics. Students who complete the requirements of the program graduate with honors in mathematics.

## Admission Requirements

### Current UNC Charlotte Undergraduate Students

See University Admission Requirements

Admission to the Honors Program in Mathematics is granted by the Department of Mathematics and Statistics, based on the following minimum requirements:

- At least 20 credit hours in major related courses, including 9 credit hours from:
  - MATH 2120 or MATH 2241
  - MATH 2164 or MATH 2171
  - MATH 3163 or STAT 3110
- A minimum GPA of 3.25 in all mathematics (MATH), statistics (STAT), and operations research (OPRS) courses
- A minimum overall GPA of 3.0

Interested students must contact the Honors Director of the Department of Mathematics and Statistics for admission to the program. Once the Director verifies the minimum requirements, the student must select a mathematics faculty member who is willing to serve as an honors advisor to develop a research project culminating in a thesis. The student must also choose one or two readers for the thesis. In order to graduate with honors, the University requires that students be admitted to honors candidacy at least two semesters before graduation.

## Course Requirements

Enrollment in MATH 3790 indicates that the student is officially enrolled in the Mathematics Honors Program. MATH 3791 must culminate in an honors thesis approved by the advisor and the readers. Note that MATH 3791 replaces MATH 3689.

- MATH 3790 - Junior Honors Seminar (3)
- MATH 3791 - Senior Honors Tutorial (3)

## Progression Requirements

The requirements for graduation with honors are:

- Completion of all requirements for a Major in Mathematics or Mathematics for Business with a minimum GPA of 3.25 in the major
- Completion of the Senior Honors Seminar (MATH 3791) with a grade of A and a minimum GPA of 3.5 in both Honors Seminars
- Oral presentation of the honors thesis
- Recommendation by the Honors Director of the Department of Mathematics and Statistics that the student can graduate with honors
- Completion of the Application to Candidacy process for graduating with Honors, as directed by the Honors College

## Cooperative Education Program

A student may participate in the Mathematics Cooperative Education Program in either the parallel or alternate track. The parallel track combines part-time academic study and part-time cooperative experience during the same semester, while the alternate track alternates semesters totally devoted to work with semesters totally devoted to academic study. Students in the Mathematics Cooperative Education Program must participate in a minimum of two semesters in the program. Students who are in good standing with the University, have a minimum overall GPA of 2.5, and have completed 30 credit hours are eligible to apply. Transfer students are required to complete 12 credit hours at the University prior to application. Students interested in participating in the program should contact the Coordinator of Undergraduate Programs in the Department of Mathematics and Statistics or the University Career Center for information.

## Early Entry: Master of Science in Mathematics

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Program to begin work toward a graduate degree before completion of the baccalaureate degree.

### Admission Requirements

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Minimum 3.3 GPA in the major
- Acceptable scores on GRE, but exceptional undergraduate students with Junior or Senior standing and a cumulative GPA of 3.5 or above may receive an automatic waiver of the GRE requirement
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

### Progression Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree.

### Special Policies or Requirements

Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

## Early Entry: Master of Science in Financial Engineering and Fin Tech

For details, see the College of Business section of this *Catalog* under the "Department of Finance" heading.

# Ishwar Aggarwal Department of Physics and Optical Science

physics.charlotte.edu

## Undergraduate Programs

- B.A. in Physics
  - Honors Program
- B.S. in Physics
  - Honors Program
- B.S. in Physics and B.S. in Electrical Engineering Dual Degree *(see College of Engineering section under the Department of Electrical and Computer Engineering heading)*
- B.A. in Physics and B.S. in Mechanical Engineering Dual Degree *(see College of Engineering section under the Department of Mechanical Engineering and Engineering Science heading)*
- Minor in Physics
- Early Entry: M.S. in Applied Physics
- Early Entry: M.S. in or Ph.D. in Optical Science and Engineering

A Major in Physics can lead to many challenging, exciting, and productive careers. Students majoring in physics enter a variety of technical fields, attend medical school, teach in high school, or attend graduate school. Research physicists work in industry and government, in laboratories and hospitals, and on university campuses.

The Aggarwal Department of Physics and Optical Science offers both a Bachelor of Arts (B.A.) and a Bachelor of Science (B.S.) degree. These degrees are intended for students interested in working in industry or attending graduate school in physics or a related field.

The Bachelor of Art degree is appropriate for students seeking an in-depth understanding of physics within the context of a broader education. This curriculum allows the greatest freedom in choosing electives offered by other departments and is ideal for students wishing to pursue double majors, matching physics with another discipline or who plan to teach physics in high school.

The Bachelor of Science degree is appropriate for students planning to pursue physics as a professional career working in a technical industry, either immediately after graduation or after graduate study in physics or a related field.

In addition, the department offers dual degree programs in Physics and Electrical, or Mechanical Engineering, where Engineering students at UNC Charlotte have the opportunity to earn both an engineering degree and a B.A. in Physics degree simultaneously.

All of the degrees in physics are very structured – one class builds on another. Students should declare the major in their freshman or early in their sophomore year, so that all required classes can be completed in 4 years.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

## Bachelor of Arts in Physics

The Bachelor of Art degree is appropriate for students seeking an in-depth understanding of physics within the context of a broader education. This curriculum allows the greatest freedom in choosing electives offered by other departments, and is ideal for students wishing to pursue double majors, matching physics with another discipline.

### Admission Requirements

#### Freshmen

- See University Admission Requirements
- *Minimum GPA: n/a*

#### Transfers

- See University Admission Requirements
- *Minimum GPA:* 2.0
- *Transferable Credit Hours:* 24

#### Currently Enrolled Students

- *Declaration of Major:* Students should declare a Physics major in their Freshman or Sophomore year.

### Degree Requirements

A Major in Physics leading to the B.A. degree consists of at least 39 credit hours of physics courses (PHYS).

#### General Education Courses (31-32 credit hours)

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

#### Foundation Courses (22 credit hours)

PHYS 1000 - New Student Seminar (1)
PHYS 2101 - Physics for Science and Engineering II (3)*
PHYS 2101L - Physics for Science and Engineering II Laboratory (1)*
PHYS 2102 - Physics for Science and Engineering II (3)*
PHYS 2102L - Physics for Science and Engineering II Laboratory (1)*
CHEM 1251 - General Chemistry I (3)
CHEM 1251L - General Chemistry I Lab (1)
MATH 1241 - Calculus I (3)**
MATH 1242 - Calculus II (3)
MATH 2241 - Calculus III (3)

**Under special circumstances, and with the approval of the Undergraduate Studies Committee, PHYS 1101, PHYS 1101L, PHYS 1102, and PHYS 1102L may be substituted for the PHYS 2101-2102 sequence.*

***Freshmen should complete MATH 1241 before the beginning of their second year.*

**Major Courses (27 credit hours)**
PHYS 3101 - Topics and Methods of General Physics (3)
PHYS 3102 - Physics for Science and Engineering III (3)
PHYS 3121 - Classical Mechanics I (3)
PHYS 3141 - Introduction to Modern Physics (3)
PHYS 3210 - Introduction to Computational Physics (3)
PHYS 3220 - Mathematical Methods in Physics (3)
PHYS 4231 - Electromagnetic Theory I (3)
PHYS 4241 - Quantum Mechanics I (3)
PHYS 3282 - Advanced Laboratory in Modern Physics (3)

**Restricted Elective Courses (6 credit hours)**
*Select two of the following not already taken as a Major Course:****
PHYS 3160 - Stellar Astrophysics (3)
PHYS 3282 - Advanced Laboratory in Modern Physics (3)
PHYS 3283 - Advanced Laboratory in Classical Physics (3)
PHYS 4110 - Introduction to Biomedical Optics (3)
PHYS 4140 - Nuclear Physics (3)
PHYS 4151 - Thermal Physics (3)
PHYS 4181 - Solid State Physics (3)
PHYS 4222 - Classical Mechanics II (3)
PHYS 4232 - Electromagnetic Theory II (3)
PHYS 4242 - Quantum Mechanics II (3)
PHYS 4271 - Waves and Optics (3)
PHYS 4281 - Advanced Laboratory in Modern Optics (3)

**** PHYS 3400, PHYS 3500, PHYS 3900 or PHYS 4000 may be used to fulfill the PHYS course requirements only if approved in advance for this purpose by the Undergraduate Studies Committee.*

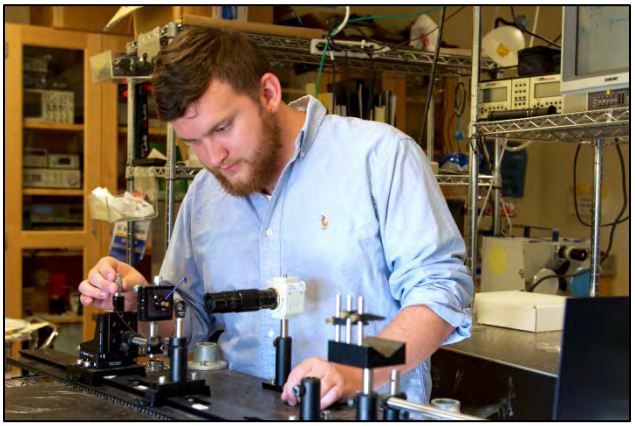
**Practical Seminar Courses (3 credit hours)**
*Select three of the following:*
PHYS 2601 - Practical Seminar: CAD/CAM, 3D Printing, and Additive Manufacturing (1)
PHYS 2602 - Practical Seminar: Optical Fiber Components and Applications (1)
PHYS 2603 - Practical Seminar: Cleanroom Microlithography (1)
PHYS 2604 - Practical Seminar: Microelectronic Controllers (1)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

### Progression Requirements
Major courses must be completed with grades of C or above.

### Teacher Licensure
Students interested in teaching physics in high school should take both PHYS 3282 and PHYS 3283. In addition to meeting the requirements for the physics degree, students who plan to become licensed teachers must have a Minor in Secondary Education. These students should contact the Office of Teacher Education Advising and Licensure (TEAL) in the College of Education regarding teacher licensure.



## Bachelor of Science in Physics
The Bachelor of Science degree is appropriate for students planning to pursue physics as a professional career, either immediately after graduation in a physics-related industry or after graduate study in physics or a related field.

### Admission Requirements
**Freshmen**
- See University Admission Requirements
- *Minimum GPA:* 2.0 (cumulative and Physics)
- *Pre-Major/Prerequisite Courses:* Complete the following with grades of C or above and no more than 2 attempts per course:
  - PHYS 2101
  - PHYS 2102
  - PHYS 3101

**Transfers**
- See University Admission Requirements
- *Minimum GPA:* 2.0 (cumulative and Physics)
- *Pre-Major/Prerequisite Courses:* Complete the following with grades of C or above and no more than 2 attempts per course:
  - PHYS 2101
  - PHYS 2102
  - PHYS 3101
- *Declaration of Major:* Transfer students may request to declare a Major in Physics leading to the B.S. degree if the above requirements were met at their previous institution(s). Otherwise, they are eligible to declare the major after completing the above requirements.
- *Transferable Credit Hours:* 24

**Currently Enrolled Students**
- *Declaration of Major:* Students should declare a Physics major in their Freshman or Sophomore year. Current UNC Charlotte undergraduate students seeking to change their major to physics may request to declare a Major in Physics leading to the B.S. degree if they have completed the above requirements.

## Degree Requirements

A Major in Physics leading to the B.S. degree consists of a minimum of 54 credit hours of physics courses (PHYS).

**General Education Courses (31-32 credit hours)**

For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

**Foundation Courses (22 credit hours)**

PHYS 1000 - New Student Seminar (1)
PHYS 2101 - Physics for Science and Engineering II (3)
PHYS 2101L Physics for Science and Engineering II Laboratory (1)
PHYS 2102 - Physics for Science and Engineering II (3)
PHYS 2102L - Physics for Science and Engineering II Laboratory (1)
CHEM 1251 - General Chemistry I (3)
CHEM 1251L - General Chemistry I Lab (1)
MATH 1241 - Calculus I (3)*
MATH 1242 - Calculus II (3)
MATH 2241 - Calculus III (3)

**Freshmen should complete MATH 1241 before the beginning of their second year.*

**Major Courses (42 credit hours)**

PHYS 3101 - Topics and Methods of General Physics (3)
PHYS 3102 - Physics for Science and Engineering III (3)
PHYS 3121 - Classical Mechanics I (3)
PHYS 3141 - Introduction to Modern Physics (3)
PHYS 3210 - Introduction to Computational Physics (3)
PHYS 3220 - Mathematical Methods in Physics (3)
PHYS 3282 - Advanced Laboratory in Modern Physics (3)
PHYS 4151 - Thermal Physics (3)
PHYS 4222 - Classical Mechanics II (3)
PHYS 4232 - Electromagnetic Theory II (3)
PHYS 4231 - Electromagnetic Theory I (3)
PHYS 4241 - Quantum Mechanics I (3)
PHYS 4271 - Waves and Optics (3)
PHYS 4281 - Advanced Laboratory in Modern Optics (3)

**Restricted Elective Courses (6 credit hours)**

*Select two of the following**:*
PHYS 3160 - Stellar Astrophysics (3)
PHYS 3283 - Advanced Laboratory in Classical Physics (3)
PHYS 4110 - Introduction to Biomedical Optics (3)
PHYS 4140 - Nuclear Physics (3)
PHYS 4181 - Solid State Physics (3)
PHYS 4242 - Quantum Mechanics II (3)

*** PHYS 3900 or PHYS 4000 may be used to fulfill the PHYS course requirements only if approved in advance for this purpose by the Undergraduate Studies Committee. Students planning for graduate study in physics are strongly advised to take PHYS 4242 as part of their 3000/4000 level elective credit hours.*

**Practical Seminar Courses (3 credit hours)**

*Select three of the following:*
PHYS 2601 - Practical Seminar: CAD/CAM, 3D Printing, and Additive Manufacturing (1)
PHYS 2602 - Practical Seminar: Optical Fiber Components and Applications (1)
PHYS 2603 - Practical Seminar: Cleanroom Microlithography (1)
PHYS 2604 - Practical Seminar: Microelectronic Controllers (1)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements

Courses in physics (PHYS) toward the major must all be completed with grades of C or above.

## Teacher Licensure

In addition to meeting the requirements for the physics degree, students who plan to become licensed teachers must have a Minor in Secondary Education. These students should contact the Office of Teacher Education Advising and Licensure (TEAL) in the College of Education regarding teacher licensure.

# Minor in Physics

A Minor in Physics requires a minimum of 17 credit hours of physics courses.

## Admission Requirements

**Current UNC Charlotte Undergraduate Students**

See University Admission Requirements

## Minor Requirements

Students may select from two options to complete the Minor in Physics. Option 1 is for students who have completed the calculus-based introductory physics course. Option 2 is for students who have completed the algebra-based introductory physics course.

**Option 1**

PHYS 2101 - Physics for Science and Engineering I (3)
PHYS 2101L - Physics for Science and Engineering I Lab (1)
PHYS 2102 - Physics for Science and Engineering II (3)
PHYS 2102L - Physics for Science and Engineering II Lab (1)
PHYS 3101 - Topics and Methods of General Physics (3)
PHYS 3141 - Introduction to Modern Physics (3)
PHYS xxxx – Physics Elective Course (3)*

**Option 2**

PHYS 1101 - Introductory Physics I (3)
PHYS 1101L - Introductory Physics I Laboratory (1)
PHYS 1102 - Introductory Physics II (3)
PHYS 1102L - Introductory Physics II Laboratory (1)
PHYS 3101 - Topics and Methods of General Physics (3)
PHYS 3141 - Introduction to Modern Physics (3)
PHYS xxxx – Physics Elective Course (3)*

***Elective Courses***

*The PHYS elective course must be selected from the list below of approved PHYS courses at the 3000- or 4000-level.*

PHYS 3101 - Topics and Methods of General Physics (3)
PHYS 3102 - Physics for Science and Engineering III (3)
PHYS 3121 - Classical Mechanics I (3)
PHYS 3141 - Introduction to Modern Physics (3)
PHYS 3160 - Stellar Astrophysics (3)
PHYS 3210 - Introduction to Computational Physics (3)
PHYS 3220 - Mathematical Methods in Physics (3)
PHYS 3282 - Advanced Laboratory in Modern Physics (3)
PHYS 3283 - Advanced Laboratory in Classical Physics (3)
PHYS 4110 - Introduction to Biomedical Optics (3)
PHYS 4140 - Nuclear Physics (3)
PHYS 4151 - Thermal Physics (3)
PHYS 4181 - Solid State Physics (3)
PHYS 4222 - Classical Mechanics II (3)
PHYS 4231 - Electromagnetic Theory I (3)
PHYS 4232 - Electromagnetic Theory II (3)
PHYS 4241 - Quantum Mechanics I (3)
PHYS 4242 - Quantum Mechanics II (3)
PHYS 4271 - Waves and Optics (3)
PHYS 4281 - Advanced Laboratory in Modern Optics (3)

*Note: PHYS 3900 or PHYS 4000 may also be used to fulfill the 17-credit hour requirement only if approved in advance for this purpose by the Undergraduate Studies Committee.*

### Minor Total = 17 Credit Hours

### Progression Requirements

PHYS courses must be completed with a GPA of C or above.

## Honors Program in Physics

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

See University Admission Requirements

To obtain a degree with honors in physics, students must:

- Maintain a minimum GPA of 3.0 in all physics courses
- Complete PHYS 3900
- Successfully present the results of their project to a panel of faculty members
- Complete the Application to Candidacy process for graduating with honors, as directed by the Honors College

The honors notation will appear on a student's official transcript. Details are available on the Department of Physics and Optical Science website.

## Cooperative Education Program

In the Cooperative Education Program, students complete their lower-division coursework and, after being formally accepted as a co-op student, alternates periods of academic coursework with periods of full-time paid employment in an area mutually agreed upon by the student, an employer, and the University. Students who are in good standing with the University, have a minimum overall GPA of 2.5, and have completed 30 credit hours are eligible to apply. Transfer students are required to complete 12 credit hours at the University prior to application. Further information regarding the application procedure for admission into this program can be obtained from the University Career Center.

## Early Entry: Master of Science in Applied Physics

Exceptional undergraduate students at UNC Charlotte may apply to this Early Entry Programs to begin work toward a graduate degree before completion of the baccalaureate degree.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Acceptable scores on the appropriate graduate standardized test (e.g., GRE) *(Note: The GRE requirement is waived for Early Entry Program applicants who are Physics majors and meet all other requirements.)*
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

### Progression Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree.

### Special Policies or Requirements

Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

## Accelerated Master's Program

### *(for High School Seniors and UNC Charlotte Undergraduate Freshmen)*

Academically talented high school seniors and UNC Charlotte undergraduate freshmen are encouraged to apply to an Accelerated Master's Program to begin work toward both undergraduate and graduate degrees in their Freshman year.

### Admission Requirements

- See University Admission Requirements
- Minimum high school GPA of 3.75 (on a 4.0 scale)
- Minimum score of 1220 on SAT

### Progression Requirements

Students must maintain a strong academic record at both the undergraduate and graduate levels with a cumulative GPA of 3.0 or above.

### Special Policies or Requirements

Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on the Accelerated Master's Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/accelerated-masters.

For details about the full requirements for this degree program, see the program listing in the *Graduate Catalog*.

## Early Entry: Master of Science or Ph.D. in Optical Science and Engineering

Exceptional undergraduate students at UNC Charlotte may apply to one of these Early Entry Programs to begin work toward a graduate degree before completion of the baccalaureate degree.

### Admission Requirements

**Current UNC Charlotte Undergraduate Students**

- See University Admission Requirements
- Completion of at least 75 undergraduate credit hours (although it is expected that close to 90 credit hours will have been earned by the time the first graduate course is taken)
- Minimum 3.2 overall undergraduate GPA
- Acceptable scores on the GRE General Test *(Note: The GRE General Test requirement is waived for Early Entry Program applicants who have a minimum 3.4 GPA in the major)*
- Submit application online at gradadmissions.charlotte.edu/apply and provide supporting documents
- Recommendation by the Graduate Program Director and approved by the Graduate School

### Progression Requirements

- Completion of Early Entry Program Form, and approved by the Undergraduate Coordinator, Graduate Program Director, and Graduate School, prior to registering for graduate coursework each semester
- Maintain a minimum 3.0 overall undergraduate GPA
- Undergraduate students are allowed to take only 15 hours of graduate credit before they have completed their baccalaureate degree.

### Special Policies or Requirements

Up to 12 credit hours earned at the graduate level may be substituted for required undergraduate hours (i.e., up to 12 credit hours of graduate coursework may be double-counted toward both the undergraduate and graduate degrees).

For additional details on Early Entry to Graduate Programs, see the "Degree Requirements and Academic Policies" section of the *Graduate Catalog* and the Graduate Admissions website at gradadmissions.charlotte.edu/admissions/early-entry.

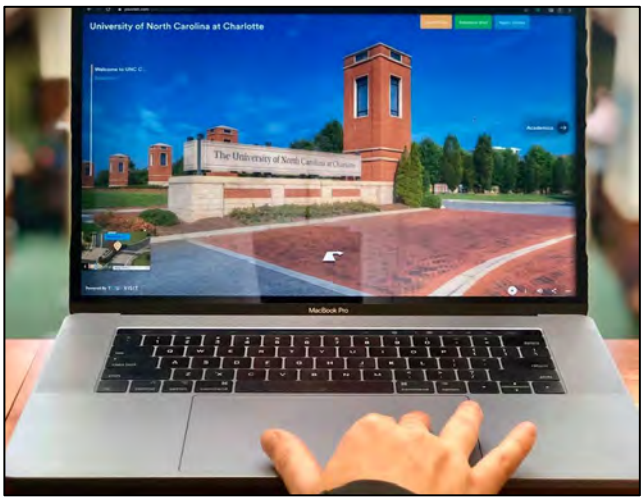
For details about the full requirements for these degree programs, see the individual program listings in the *Graduate Catalog*.

# School of Professional Studies

# School of Professional Studies

sps.charlotte.edu

The UNC Charlotte School of Professional Studies ensures that all learners, regardless of age, level of experience, or previous education, have opportunities to learn, grow, and achieve their personal and professional goals with a UNC Charlotte education. We believe that everyone deserves lifetime access to education that enables a lifelong journey of personal and professional growth.




# Online Academic Programs

Charlotte Online extends learning opportunities to learners hoping to advance their careers on their own time. Our growing selection of online and distance education programs are taught by award-winning faculty and are nationally recognized for quality. Students can connect to campus from anywhere in the U.S. and enroll in undergraduate and graduate programs to fit their needs in industries like business, healthcare, education, engineering, data and computing, and more.

Visit Charlotte Online at: online.charlotte.edu for more details.

# Professional Development

These programs, offered through the university's School of Professional Studies, may include certificates, microcredentials, courses, and workforce development solutions for learners and organizations and are open for public enrollment. Professional development programs provide opportunities for upskilling and re-skilling in flexible, short-format options designed to fit into busy schedules. Many programs also support professionals in achieving or maintaining professional licensure. Learners may earn continuing education credits in select courses as well as credentials to enhance their resume or advance in their career. Visit professional.charlotte.edu for more information.

# Corporate Training and Executive Education

UNC Charlotte Corporate Training and Executive Education helps unlock your workforce's potential with fully-customized professional development training programs tailored to your organization's needs that build skill-centered results and lasting impact. Designed to empower individuals at every level – from front-line supervisors to senior executives – our programs blend the latest industry insights with practical skills development, driving innovation, productivity, and leadership excellence

The Corporate Training and Executive Education difference is an integrated approach that combines strategic partnerships, talent acquisition and talent development solutions.

UNC Charlotte Corporate Training and Executive Education serves businesses and organizations with Custom Solutions and Talent Pathways:

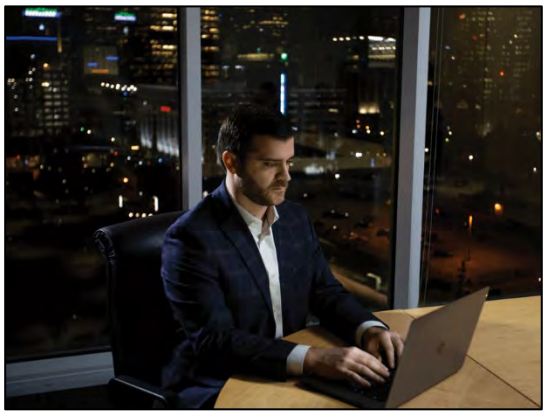
- Through Custom Solutions, we create and customize strategically-designed training programs for organizations that build skill-centered results and lasting impact.
- Through Talent Pathways we consult with clients to map custom pathways through academic education, professional training, custom learning solutions, and associated services to meet their talent management objectives.

Visit https://corporatetraining.charlotte.edu/ for more details.

# Undergraduate Programs

## Undergraduate Programs

- B.S. in Professional Studies
- Project Management, Undergraduate Certificate



## Bachelor of Science in Professional Studies

The multi/interdisciplinary major in Professional Studies is intentionally designed to allow transfer and returning students to build on past educational and professional experiences and work with faculty and professional staff to grow knowledge and skills needed to secure employment in a desired field. Students complete a plan of study that includes a core of applied professional skills, an exploration of human social relationships and institutions, a professional concentration series, and culminates in a capstone project.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

### Admission Requirements

#### Transfers

The Professional Studies degree is available to transfer students and returning degree-seeking UNC Charlotte undergraduate students.

Prospective students interested in the Professional Studies degree should have at least 24 transferable credit hours. A maximum of 64 credit hours from two-year institutions is allowed. See Academic Policy for details.

In addition to the online application and required fee, official transcripts from every college attended, and an official high school transcript, the following requirements apply:

- Applicants must present an overall 2.0 grade point average according to calculations performed by the Undergraduate Admissions office.
- Internationally-educated students must have their foreign credentials translated and evaluated by an accredited credential evaluation service. Transfer applicants must have a "course by course report" completed by the service, and they must present the equivalent of a high school diploma in addition to college-transferable coursework.
- Applicants must be in good standing and eligible to return to the last institution attended.

#### Currently Enrolled Students

- *Declaration of Major:* Students must have a 2.0 cumulative GPA and have completed at least 24 earned credit hours. The final grades of the prerequisite courses must be posted on their transcript.
- Submit the Professional Studies Major Application to request the Professional Studies major.

### Degree Requirements

#### General Education Courses (37-43 credit hours)

For details on required courses, refer to the General Education Program.

#### Credit for Prior Learning (optional)

Up to 23 credit hours (see policy for transfer credit).

#### Major Core Courses (21 credit hours)

***Sociology Courses (9 credit hours)***

**Courses may not be double counted as focus area courses.**

SOCY 1101 - Introduction to Sociology (3)
or SOCY 1501 - Global Social Science: Sociological Approaches to Global Issues (3)
or SOCY 1511 - Local Social Science: Sociological Approaches to Local Issues (3)
SOCY 2115 - Introduction to Organizations (3)
SOCY 4111 - Social Inequality (3)
or SOCY 4112 - Sociology of Work (3)
or SOCY 4114 – Professionalism in Sociology (3)
or SOCY 4115 - Organizational Sociology (3)

***Professional Studies Courses (12 credit hours)***

#### Professional Studies Core (9 credit hours)

Nine credit hours must be completed across any courses within the Professional Studies core. Students are not restricted to one competency series. No more than 6 credit hours of special topics (PROS 3000) may be used to satisfy this requirement and may not be double counted as an elective.

PROS 3000 - Topics in Professional Studies (1 to 3)

*Project Management Series*
PROS 2101 - Project Management: Foundations (3)
PROS 2102 - Project Management: Practitioner (3)
PROS 2103 - Project Management: Specialist (3)

*Leadership Essentials Series*
PROS 2201 - Leadership Essentials: Foundations (1)
PROS 2202 - Leadership Essentials: Practitioner (1)
PROS 2203 - Leadership Essentials: Specialist (1)

*Human Resource Management Series*
PROS 2301 - Human Resource Management: Foundations (3)
PROS 2302 - Human Resource Management: Practitioner (3)
PROS 2303 - Human Resource Management: Specialist (3)

*Capstone Course (3 credit hours)*
PROS 4600 - Professional Studies Capstone (1 to 3)

**Professional Studies Practice or Optional Minor (12 credit hours)**
Complete at least twelve credit hours of various PROS courses to meet this requirement. Courses may not be counted toward both the Professional Studies Core and this requirement.

Alternatively, students may substitute an optional minor to meet this requirement. Select any minor approved in consultation with advisor.

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

### Degree Total = 120 Credit Hours

### Progression Requirements
A GPA of 2.0 in the major is required for graduation, as well as grades of C or above in all courses.

## Project Management, Undergraduate Certificate
The Project Management certificate equips students with the expertise to oversee projects through all phases of the its life cycle, emphasizing the application of project control and quality management theories. By engaging with a range of essential project management tools and methodologies, students refine skills in decision-making, resource alignment, and stakeholder communication, preparing them for effective and strategic project leadership.

This Project Management certificate meets the project management education requirements to qualify to take the Project Management Professional (PMP)® exam or Certified Associate in Project Management (CAPM)® exam.

### Admission Requirements
The Undergraduate Certificate in Project Management is open to currently enrolled UNC Charlotte undergraduate students.

See University Admission Requirements.

### Core Courses
PROS 2101 - Project Management: Foundations (3)
PROS 2102 - Project Management: Practitioner (3)
PROS 2103 - Project Management: Specialist (3)

### Select 2 or 3 courses from the following (6-9 credit hours)
PROS 3104 - Project Management: Introduction to Agile (3)
PROS 3105 - Project Management: Process Improvement & Process Design (3)
PROS 3205 - Leading and Managing Technical Team-Based Innovation (3)
PROS 4101 - Project Management: Advanced Roles of a Project Manager (3)

### Elective Courses (0 - 3 credit hours)
PROS 2201 - Leadership Essentials: Foundations (1)
PROS 2301 - Human Resource Management: Foundations (3)
PROS 3000 - Topics in Professional Studies (1 to 3)
UCOL 3410 - Career Development Internship (1 to 3)

### Total = 16 Hours

### Progression Requirements
To earn the certificate, students must achieve a grade of C or higher in all required courses.

### Concentrations
The B.S. in Professional Studies is also available with optional Concentrations in IT Operations, Learning and Development, and Project Management.

## Bachelor of Science in Professional Studies
## *with Concentration in IT Operations*
The concentration in IT Operations will equip Professional Studies majors with the problem-solving skills needed to effectively provide front-line IT support in a business environment. Students will build knowledge in IT concepts, practice network configuration and troubleshooting techniques, gain hands-on experience with Windows and Linux, and explore cybersecurity threats and system-hardening tactics.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

### Admission Requirements
**Transfers**
- See University Admission Requirements
- The Professional Studies degree is available to transfer students and returning degree-seeking UNC Charlotte undergraduate students.
- Prospective students interested in the Professional Studies degree should have at least 24 transferable credit hours. A maximum of 64 credit hours from two-year institutions is allowed. See Academic Policy for details.

In addition to the online application and required fee, official transcripts from every college attended, and an official high school transcript, the following requirements apply:
- Applicants must present an overall 2.0 grade point average according to calculations performed by the Undergraduate Admissions office.

- Internationally-educated students must have their foreign credentials translated and evaluated by an accredited credential evaluation service. Transfer applicants must have a "course by course report" completed by the service, and they must present the equivalent of a high school diploma in addition to college-transferable coursework.
- Applicants must be in good standing and eligible to return to the last institution attended.

**Currently Enrolled Students**
- *Declaration of Major*: Students must have a 2.0 cumulative GPA and have completed at least 24 earned credit hours. The final grades of the prerequisite courses must be posted on their transcript.
- Submit the Professional Studies Major Application to request the Professional Studies major.

## Degree Requirements

**General Education Requirements (31-32 credit hours)**
For details on required courses, refer to the General Education Program.

**Credit for Prior Learning (optional)**
Up to 23 credit hours (see policy for transfer credit).

**Major Core Courses (21 credit hours)**
***Sociology Courses (9 credit hours)***
Courses may not be double counted as focus area courses.
SOCY 1101 - Introduction to Sociology (3)
or SOCY 1501 - Global Social Science: Sociological Approaches to Global Issues (3)
or SOCY 1511 - Local Social Science: Sociological Approaches to Local Issues (3)
SOCY 2115 - Introduction to Organizations (3)
SOCY 4111 - Social Inequality (3)
or SOCY 4112 - Sociology of Work (3)
or SOCY 4114 - Professionalism in Sociology (3)
or SOCY 4115 - Organizational Sociology (3)

**Professional Studies Courses (12 credit hours)**
***Professional Studies Core (9 credit hours)***
Nine credit hours must be completed across any courses within the Professional Studies core. Students are not restricted to one competency series. No more than 6 credit hours of special topics (PROS 3000) may be used to satisfy this requirement and may not be double counted as an elective.

PROS 3000 - Topics in Professional Studies (1 to 3)

***Project Management Series***
PROS 2101 - Project Management: Foundations (3)
PROS 2102 - Project Management: Practitioner (3)
PROS 2103 - Project Management: Specialist (3)

***Leadership Essentials Series***
PROS 2201 - Leadership Essentials: Foundations (1)
PROS 2202 - Leadership Essentials: Practitioner (1)
PROS 2203 - Leadership Essentials: Specialist (1)

***Human Resource Management Series***
PROS 2301 - Human Resource Management: Foundations (3)
PROS 2302 - Human Resource Management: Practitioner (3)
PROS 2303 - Human Resource Management: Specialist (3)

**Capstone Course (3 credit hours)**
PROS 4600 - Professional Studies Capstone (1 to 3)

**IT Operations Concentration Courses (12 credit hours)**
Complete twelve credit hours in the required coursework with a grade of C or above.
PROS 3331 - Foundations of IT and Technical Support (3)
PROS 3332 - Computer Networking and Internet Technologies (3)
PROS 3333 - Operating Systems and System Administration (3)
PROS 4331 - Cybersecurity and IT Risk Management (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements

A GPA of 2.0 in the major is required for graduation, as well as grades of C or above in all courses.

# Bachelor of Science in Professional Studies
## *with Concentration in Learning and Development*

The concentration in Learning and Development is designed to equip Professional Studies majors with the in-demand skills needed to become successful instructional designers or training/development specialists across a variety of industries.

Students pursuing this concentration may select from the below two options:

(1) Complete all four PROS courses listed within the concentration, or;
(2) Complete all four ELDT courses listed within the concentration, which will provide dual credit for those who have been admitted as Early Entry students for the M.Ed. in Learning, Design, and Technology (Training and Development & Online Learning and Teaching Concentrations). The ELDT courses are only available for students who have been successfully admitted to the M.Ed. program, administered via the Cato College of Education.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

## Admission Requirements

**Transfers**
- See University Admission Requirements
- The Professional Studies degree is available to transfer students and returning degree-seeking UNC Charlotte undergraduate students.
- Prospective students interested in the Professional Studies degree

should have at least 24 transferable credit hours. A maximum of 64 credit hours from two-year institutions is allowed. See Academic Policy for details.

In addition to the online application and required fee, official transcripts from every college attended, and an official high school transcript, the following requirements apply:

- Applicants must present an overall 2.0 grade point average according to calculations performed by the Undergraduate Admissions office.
- Internationally-educated students must have their foreign credentials translated and evaluated by an accredited credential evaluation service. Transfer applicants must have a "course by course report" completed by the service, and they must present the equivalent of a high school diploma in addition to college-transferable coursework.
- Applicants must be in good standing and eligible to return to the last institution attended.

**Currently Enrolled Students**

- *Declaration of Major*: Students must have a 2.0 cumulative GPA and have completed at least 24 earned credit hours. The final grades of the prerequisite courses must be posted on their transcript.
- Submit the Professional Studies Major Application to request the Professional Studies major.

## Degree Requirements

**General Education Requirements (31-32 credit hours)**
For details on required courses, refer to the General Education Program.

**Credit for Prior Learning (optional)**
Up to 23 credit hours (see policy for transfer credit).

**Major Core Courses (21 credit hours)**
***Sociology Courses (9 credit hours)***
Courses may not be double counted as focus area courses.
SOCY 1101 - Introduction to Sociology (3)
or SOCY 1501 - Global Social Science: Sociological Approaches to Global Issues (3)
or SOCY 1511 - Local Social Science: Sociological Approaches to Local Issues (3)
SOCY 2115 - Introduction to Organizations (3)
SOCY 4111 - Social Inequality (3)
or SOCY 4112 - Sociology of Work (3)
or SOCY 4114 - Professionalism in Sociology (3)
or SOCY 4115 - Organizational Sociology (3)

**Professional Studies Courses (12 credit hours)**
***Professional Studies Core (9 credit hours)***
Nine credit hours must be completed across any courses within the Professional Studies core. Students are not restricted to one competency series. No more than 6 credit hours of special topics (PROS 3000) may be used to satisfy this requirement and may not be double counted as an elective.

PROS 3000 - Topics in Professional Studies (1 to 3)

***Project Management Series***
PROS 2101 - Project Management: Foundations (3)
PROS 2102 - Project Management: Practitioner (3)
PROS 2103 - Project Management: Specialist (3)

***Leadership Essentials Series***
PROS 2201 - Leadership Essentials: Foundations (1)
PROS 2202 - Leadership Essentials: Practitioner (1)
PROS 2203 - Leadership Essentials: Specialist (1)

***Human Resource Management Series***
PROS 2301 - Human Resource Management: Foundations (3)
PROS 2302 - Human Resource Management: Practitioner (3)
PROS 2303 - Human Resource Management: Specialist (3)

**Capstone Course (3 credit hours)**
PROS 4600 - Professional Studies Capstone (1 to 3)

**Learning and Development Concentration Courses (12 credit hours)**
Complete twelve credit hours in the required coursework with a grade of C or above.
PROS 3321 - Foundations of Instructional Design (3)
PROS 3322 - Designing Effective Learning Solutions (3)
PROS 3323 - Developing Engaging eLearning Programs (3)
PROS 3324 - Evaluating & Enhancing Learning Solutions (3)

**Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation**
Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements

A GPA of 2.0 in the major is required for graduation, as well as grades of C or above in all courses.

## Special Policies or Requirements

Students pursuing this concentration may select from the below two options:

1. Complete all four PROS courses listed within the concentration, or;
2. Complete all four ELDT courses listed within the concentration, which will provide dual credit for those who have been admitted as Early Entry students for the M.Ed. in Learning, Design, and Technology (Training and Development & Online Learning and Teaching Concentrations). The ELDT courses are only available for students who have been successfully admitted to the M.Ed. program, administered via the Cato College of Education.

# Bachelor of Science in Professional Studies
## *with Concentration in Project Management*

The concentration in Project Management empowers Professional Studies majors to deepen their knowledge of project management

methodologies and best practices, in line with the Project Management Institute's (PMI) PMBOK® Guide.

All program-level Admission and Progression Requirements are in addition to the University of North Carolina at Charlotte Admissions Requirements.

## Admission Requirements

### Transfers

- See University Admission Requirements
- The Professional Studies degree is available to transfer students and returning degree-seeking UNC Charlotte undergraduate students.
- Prospective students interested in the Professional Studies degree should have at least 24 transferable credit hours. A maximum of 64 credit hours from two-year institutions is allowed. See Academic Policy for details.

In addition to the online application and required fee, official transcripts from every college attended, and an official high school transcript, the following requirements apply:

- Applicants must present an overall 2.0 grade point average according to calculations performed by the Undergraduate Admissions office.
- Internationally-educated students must have their foreign credentials translated and evaluated by an accredited credential evaluation service. Transfer applicants must have a "course by course report" completed by the service, and they must present the equivalent of a high school diploma in addition to college-transferable coursework.
- Applicants must be in good standing and eligible to return to the last institution attended.

### Currently Enrolled Students

- *Declaration of Major*. Students must have a 2.0 cumulative GPA and have completed at least 24 earned credit hours. The final grades of the prerequisite courses must be posted on their transcript.
- Submit the Professional Studies Major Application to request the Professional Studies major.

## Degree Requirements

### General Education Requirements (31-32 credit hours)

For details on required courses, refer to the General Education Program.

### Credit for Prior Learning (optional)

Up to 23 credit hours (see policy for transfer credit).

### Major Core Courses (21 credit hours)

***Sociology Courses (9 credit hours)***

Courses may not be double counted as focus area courses.

SOCY 1101 - Introduction to Sociology (3)
or SOCY 1501 - Global Social Science: Sociological Approaches to Global Issues (3)
or SOCY 1511 - Local Social Science: Sociological Approaches to Local Issues (3)
SOCY 2115 - Introduction to Organizations (3)
SOCY 4111 - Social Inequality (3)
or SOCY 4112 - Sociology of Work (3)
or SOCY 4114 - Professionalism in Sociology (3)
or SOCY 4115 - Organizational Sociology (3)

### Professional Studies Courses (12 credit hours)

***Professional Studies Core (9 credit hours)***

Nine credit hours must be completed across any courses within the Professional Studies core. Students are not restricted to one competency series. No more than 6 credit hours of special topics (PROS 3000) may be used to satisfy this requirement and may not be double counted as an elective.

PROS 3000 - Topics in Professional Studies (1 to 3)

***Project Management Series***

PROS 2101 - Project Management: Foundations (3)
PROS 2102 - Project Management: Practitioner (3)
PROS 2103 - Project Management: Specialist (3)

***Leadership Essentials Series***

PROS 2201 - Leadership Essentials: Foundations (1)
PROS 2202 - Leadership Essentials: Practitioner (1)
PROS 2203 - Leadership Essentials: Specialist (1)

***Human Resource Management Series***

PROS 2301 - Human Resource Management: Foundations (3)
PROS 2302 - Human Resource Management: Practitioner (3)
PROS 2303 - Human Resource Management: Specialist (3)

### Capstone Course (3 credit hours)

PROS 4600 - Professional Studies Capstone (1 to 3)

### Project Management Concentration Courses (12 credit hours)

Complete twelve credit hours in the required coursework with a grade of C or above.

PROS 3321 - Foundations of Instructional Design (3)
PROS 3322 - Designing Effective Learning Solutions (3)
PROS 3323 - Developing Engaging eLearning Programs (3)
PROS 3324 - Evaluating & Enhancing Learning Solutions (3)

### Unrestricted Elective Courses, Double Major and/or Minor to Complete Requirements for Graduation

Students must earn a minimum of 120 credit hours to graduate. This requirement can be fulfilled through a combination of elective courses, a minor, or a double major. The 120-credit minimum must be satisfied regardless of the specific academic path chosen (e.g., a minor combined with electives).

## Degree Total = 120 Credit Hours

## Progression Requirements

A GPA of 2.0 in the major is required for graduation, as well as grades of C or above in all courses.

# Honors College

# Honors College

honorscollege.charlotte.edu

The Honors College offers academically motivated, high-potential learners from all communities access to opportunities for intellectual breadth, undergraduate research, service learning, and a community feeling within the context of a large public research university. Comprised of thirty distinct honors programs, each with its own admission and graduation requirements, the Honors College is a campus hub for undergraduate honors courses, enrichment opportunities, merit scholars programs, honors scholarships, study abroad, community service, faculty lectures, and University-wide advising for nationally competitive awards such as the Rhodes, Truman, and Goldwater Scholarships. An honors residence option in Levine Hall is also available for students in the Honors College, with priority for freshmen.

## The University Honors Program in the Honors College

The University Honors Program (UHP) in the Honors College offers a unique, interdisciplinary undergraduate experience. The program centers around honors coursework and High Impact Practices (HIP). In addition to academic and professional development, the UHP offers a supportive community of students and faculty who mutually invest to help members develop to their fullest potential as scholar citizens. Students are encouraged to participate in varied enrichment activities, community engagement, leadership opportunities, internships, inquiry, and study abroad programs with the goal of broadening perspectives.

The UHP curriculum requires successful completion of HONR 1700, CTCM 2530 (honors sections only, unless entering UHP students already took CTCM 2530), 12 credit hours of honors electives, and completion of an honors capstone project. An Advanced Entry option is available for incoming, transfer, or continuing students with substantial early college, AP, transfer, or completed credit. Students in the UHP also may apply to a disciplinary honors program during their time at UNC Charlotte. The Honors College website maintains a current listing of all honors programs available at UNC Charlotte. Credit for certain honors courses in disciplinary honors programs may count toward the UHP requirements. As their culminating honors curricular requirement, UHP students complete a capstone project in the UHP or in their disciplinary honors program.

### Admission Requirements

Students who may apply to the UHP include entering freshmen, transfer and continuing students in any major who: expect to be at UNC Charlotte for at least two years to complete their degree program, have a strong record of academic success, and feel they are a good fit with the UHP mission. Entering freshman must have an unweighted high school GPA of 3.2. Continuing students must have a GPA of 3.4 to apply. All members of UHP must maintain a 3.0 overall GPA, a 3.2 GPA in honors courses, and meet co-curricular expectations each semester.

### Course Requirements

To graduate with University Honors distinction noted on the transcript, students must satisfy the following course requirements:

#### Required Courses

Students who enter UHP with existing credit for CTCM 2530 can be exempt from the required honors section.

HONR 1700 - University Honors Program Colloquium (1) *(with a grade of B or above)*

CTCM 2530 - Critical Thinking and Communication (3) *(honors sections only unless students already took this course prior to joining UHP) (typically taken in the sophomore year)*

#### Required Elective Courses

Select 12 credit hours of lower and/or upper division honors electives. At least 6 credit hours of honors elective courses must be at the upper division level (i.e., 3000 level or higher). No more than 6 credit hours of honors elective courses may be at the lower division level (i.e., 1000 or 2000 level). Lower division electives can include (a) honors sections of fundamental themes general education courses such as xxxx 1501-H, xxxx 1502-H, xxxx 1511-H, xxxx 1512-H, AMDM 1575-H, HIST 1575-H, POLS 1575-H, and/or CAPI 1575-H, or (b) 1000 or 2000 level honors sections offered through other departments such as, but not limited to, BINF 1101-H, ECON 2101-H, ECON 2102-H, and WRDS 2101-H. Note that students can count either ECON 2101-H or ECON 2102-H towards the UHP credit, but not both.

Students accepted as Advanced Entry may be exempted from 6 credit hours of lower division honors coursework if they enter with 60+ credit hours, and may be exempted from 3 credit hours of lower division honors coursework if they enter with 30-59 credit hours.

#### Required Capstone Courses

Students in the UHP must complete an honors capstone project. Students can satisfy this requirement by either applying to a disciplinary honors program and completing their capstone proposal and capstone thesis/project in their discipline (possibly leading to graduating with dual honors; see below), or they can complete their capstone project in the UHP by completing HONR 3790 and HONR 3791. Both the capstone proposal and capstone thesis/project must receive a grade of A for graduation with honors.

### Other Requirements

- Complete the Application to Candidacy process for graduating

with honors, as directed by the Honors College
- Maintain a minimum overall GPA of 3.0, and a 3.2 GPA in honors coursework
- Maintain good standing by enrolling in an average of 2 honors courses per year
- Maintain good standing by participating in required co-curricular engagement opportunities in the UHP (e.g., Community service for year 1 students, Honors Core Experiences [HCE] for years 2-4+ students)

### Dual Honors
Students may graduate with dual honors by completing all departmental/college honors program requirements, in addition to the UHP requirements. In this case, the departmental/college capstone thesis/project coursework will satisfy the UHP capstone requirement. Students interested in this option should consult with the departmental/college honors program director about how to apply to their program and/or receive permission to complete their capstone course(s) and/or assignments.

UHP students in departmental/college honors programs with curricular requirements beyond a 2-course capstone sequence may also count one 3000- or 4000-level honors course toward their the UHP honors electives.

### Study Abroad
The UHP students participating in a faculty-led, study abroad course (i.e., summer, fall, spring courses) may request up to 3 credit hours as an honors elective course at the 3000- or 4000-level through the UHP Canvas page.

### Residence
UHP students are encouraged to live in the Honors College residence, Levine Hall, which provides an environment especially conducive to community-building, academic study and cooperative learning. Per UNC Charlotte policy, first-year students are required to live on campus, so they have first preference for living in Levine Hall. The Honors College office suite and seminar rooms are conveniently located in Levine Hall.

### The Dubois Center
The Honors College offers some honors classes, an honors student lounge (5th floor), and several honors activities each semester at The Dubois Center campus in Uptown Charlotte. The UHP students are particularly encouraged to make use of honors spaces at The Dubois Center, easily accessible via light rail.

### Student Association
All students in the UHP are members of the University Honors Program Student Association (UHPSA). This student-led organization facilitates the UHP student body meetings, social events, special discussions, student mentoring, and community service projects. All UHP students are required to attend the meetings and complete co-curricular experiences to remain in good standing.

### Merit Scholars Programs
The Albert Engineering Leadership Scholars Program, Freeman Scholars, Johnson Scholars, and the Martin Scholars Program are housed in the Honors College; Albert Scholars are members of the UHP; Freeman, Johnson, and Martin Scholars must be members of Arts and Architecture Honors Program (AAHP), Business Honors Program (BHP), or the UHP.

## Honors Programs in Departments and Colleges
Many academic departments and colleges have disciplinary honors programs enabling students to graduate with honors distinction in their major department or college. This recognition will appear on students' official academic transcripts.

Honors programs in colleges include:
- College of Arts + Architecture
- College of Business
- College of Computing and Informatics
- College of Education
- College of Engineering

Honors programs in departments and interdisciplinary programs include:
- Africana Studies
- Anthropology
- Applied Physiology, Health, and Clinical Sciences
- Art History
- Biological Sciences
- Chemistry
- Communication Studies
- Criminal Justice and Criminology
- English
- Geography and Earth Sciences
- Global Studies
- History
- Languages, Cultures and Translation
- Latin American Studies
- Mathematics and Statistics
- Nursing
- Philosophy
- Physics and Optical Science
- Political Science and Public Administration
- Psychological Science
- Public Health and Health Systems Management
- Religious Studies
- Social Work
- Sociology

Information on how to apply to and graduate with disciplinary honors can be found in this *Catalog* under each academic discipline with an honors program.

## Nationally Competitive Scholarships Advising

The Honors College, working with the University Endorsement Committee, supports students across campus who wish to apply for nationally and internationally competitive scholarships for advanced undergraduate study, leadership development, experiences abroad, and graduate programs. These scholarships, from a number of foundations and national organizations including Rhodes, Marshall, Harry S. Truman, Barry M. Goldwater, DAAD, Phi Kappa Phi, and the National Science Foundation, require extensive application procedures and faculty support. They are awarded to only the most outstanding applicants. For other awards, such as the Fulbright US Student Program, the Honors College collaborates with campus partners (i.e. The Office of Education Abroad). Students with exemplary academic records—importantly, combined with service and leadership—will be in the best position to excel in these awards competitions. Several of these awards require an on-campus review and institutional endorsement of completed applications. Students wishing to strengthen their applications may register for HONR 2720, offered regularly for competitive applicants across campus, whether they are in honors programs or not.

The Honors College also coordinates the UNC Charlotte Alumni Association Scholarships, which give preference to students in honors programs, as well as scholarships specifically for honors students: the Delbridge E. Narron Scholarship and Travel Award, and the Al Maisto Honors College Scholarship.

## Honors Societies

The Honors College supports the campus chapters of three major national honors societies: Phi Beta Kappa, Phi Kappa Phi and Sigma Xi. Nominated students can be inducted into the societies and participate in chapter activities, such as guest speakers, community service projects and social events.

# Course *Descriptions*

# Course Descriptions

## Course Descriptions

Course descriptions provide the following information:

- Subject prefix
- Course number
- Course title
- Credit hours assigned to the course
- UNC Charlotte General Education requirements that the course satisfies, if any or whether it is a Service Learning (SL) course
- Any course with which the course may be cross-listed
- Prerequisites and/or corequisites (if any)
- Brief description of the course content*
- If a course is graded as *Pass/No Credit* rather than with a letter grade
- Any restrictions on the number of times a course may be repeated

**The description may specify the number of class (lecture) and/or laboratory sessions and hours. If no class hours are given, the number of class hours per week is the same as the number of semester hours credit assigned to the course.*

An example and explanation of a typical course description:

**SUBJ 1234. Title of Course. (Credit Hours) (General Education Requirements Met or Service Learning Course Designation)** Prerequisites/corequisites. Brief description of course content.

## Course Prefix

Courses offered for academic credit are listed by number within each subject and the **subjects are listed alphabetically according to prefixes** which are assigned as listed in the following columns.

| PREFIX | SUBJECT |
|---|---|
| AAHP | Arts + Architecture Honors Program |
| ACCT | Accounting |
| AEEE | Applied Energy and Electromechanical Engineering |
| AERO | Aerospace Studies |
| AFRS | Africana Studies |
| AMDM | Foundations of American Democracy |
| AMST | American Studies |
| ANTH | Anthropology |
| ARBC | Arabic |
| ARCH | Architecture |
| ARTA | Art: Academic and Departmental |
| ARTB | Art: Basic Foundation Studios |
| ARTC | Art: Ceramics |
| ARTD | Art: Drawing |
| ARTE | Art: Education |
| ARTF | Art: Fibers |
| ARTG | Art: Graphic Design |
| ARTH | Art: History |
| ARTL | Art: Illustration |
| ARTM | Art: Digital Media |
| ARTP | Art: Painting |
| ARTR | Art: Print Media |
| ARTT | Art: Photography |
| ARTZ | Art: Sculpture |

| PREFIX | SUBJECT |
|---|---|
| BINF | Bioinformatics and Genomics |
| BIOL | Biology |
| BLAW | Business Law |
| BUSA | Business Analytics |
| BUSN | Business |
| CAPI | Capitalism Studies |
| CEGR | Civil and Environmental Engineering |
| CHEM | Chemistry |
| CHES | Humanities & Earth and Social Sciences |
| CHFD | Child and Family Development |
| CHNS | Chinese |
| CJUS | Criminal Justice and Criminology |
| CLAS | Liberal Arts & Sciences |
| CMET | Construction Management |
| CNGR | Civil and Environmental Engineering |
| COAA | Arts + Architecture |
| COMM | Communication Studies |
| COSC | College of Science |
| CTCM | Critical Thinking and Communication |
| CUYC | Urban Youth and Communities |
| DANC | Dance |
| DTSC | Data Science |

| PREFIX | SUBJECT |
|---|---|
| ECEI | Early Childhood Education Intervention |
| ECGR | Electrical and Computer Engineering |
| ECON | Economics |
| EDUC | Education |
| ELDT | Education - Learning, Design, and Technology |
| ELED | Elementary Education |
| ELET | Electrical Engineering Technology |
| ENGL | English |
| ENGR | Engineering |
| ENTR | Entrepreneurship |
| ENVE | Environmental Engineering |
| ESCI | Earth Sciences |
| ETCE | Civil/Environmental Engineering Tech |
| ETEM | Electromechanical Engineering Technology |
| ETFS | Fire and Safety Engineering Technology |
| ETGR | Engineering Technology |
| ETME | Mechanical Engineering Technology |
| EXER | Exercise Science |
| FARS | Farsi |
| FILM | Film Studies |
| FINN | Finance |
| FLED | Foreign Language Education |
| FRAN | Francophone Studies |
| FREN | French |
| GEOG | Geography |
| GEOL | Geology |
| GERM | German |
| GREK | Greek |
| GLST | Global Studies |
| GRNT | Gerontology |
| HAHS | Health and Human Services |
| HGHR | Holocaust, Genocide, and Human Rights |
| HHUM | Health & Medical Humanities |
| HIST | History |
| HLTH | Public Health Sciences |
| HONR | Honors College |
| HSMT | Health Systems Management |
| HTAS | Humanities, Technology, and Science |
| IBUS | International Business |
| IDST | Interdisciplinary Studies |
| INFO | Business Information Systems |
| ITAI | Artificial Intelligence |
| ITCS | Computer Science |
| ITIS | Software and Information Systems |
| ITLN | Italian |
| ITSC | Computing and Informatics |
| JAPN | Japanese |
| JOUR | Journalism |
| KNES | Kinesiology |
| LANG | Languages, Cultures and Translation |
| LATN | Latin |
| LBST | Liberal Studies/General Education |
| LEAD | LEADS Program |
| LEGL | Legal Studies |
| LEVN | Levine Scholars |
| LTAM | Latin American Studies |
| MAED | Mathematics Education |
| MATH | Mathematics |
| MDGK | Modern Greek |
| MDLG | Middle Grades Education |
| MDSK | Middle, Secondary, and K-12 Education |
| MEGR | Mechanical Engineering |
| METR | Meteorology |
| MGMT | Management |
| MKTG | Marketing |
| MSCI | Military Science |
| MUED | Music Education |
| MUPF | Music Performance |
| MUSC | Music |
| NDSS | Neurodiagnostics and Sleep Science |
| NURN | Nursing: RN-to-BSN |
| NURS | Nursing |
| OPER | Operations and Supply Chain Management |
| OPRS | Operations Research |
| PHIL | Philosophy |
| PHYS | Physics |
| POLS | Political Science |
| PORT | Portuguese |
| PROS | Professional Studies |
| PSYC | Psychology |
| READ | Reading, Language, and Literacy |
| RELS | Religious Studies |
| RESP | Respiratory Therapy |
| RSCH | Educational Research, Measurement, and Evaluation |
| RUSS | Russian |
| SECD | Secondary Education |
| SEGR | Systems Engineering |
| SOCY | Sociology |
| SOST | Southern Studies |
| SOWK | Social Work |
| SPAN | Spanish |
| SPED | Special Education |
| SPEL | Special and Elementary Education |
| STAT | Statistics |

| PREFIX | SUBJECT |
|---|---|
| TESL | Teaching English as Second Language |
| THEA | Theatre |
| TRAN | Translating and Translation Studies |
| UCOL | University College/General Education |
| URBS | Urban Studies |
| UWRT | First-Year Writing |
| WGST | Women's and Gender Studies |
| WRDS | Writing, Rhetoric, and Digital Studies |

## Course Numbering System

Courses are identified by four-digit numbers following the course prefix. The first digit indicates the level of the course:

**0001-0999 =** specialty courses that prepare for future coursework
**1000-2999** = lower division undergraduate courses
**3000-4999** = upper division undergraduate courses

The following second digits designate special types of courses:

**0** = topics
**4** = internship, practica, clinical, and student teaching
**5** = cooperative education
**6** = seminars
**7** = honors
**8** = independent study
**9** = research-based, thesis, and dissertation research

*Note: If the letter **L** follows the course number, the course is a laboratory course.*

## Prerequisites and Corequisites

A *prerequisite* is a requirement that must be met (or a course that must be passed) before enrolling in a more advanced course. A *corequisite* is a course which should be taken in the same semester as another.

## Cross-Listed Courses

A *cross-listed course* is a single which is simultaneously listed in the schedule of course offerings by one or more academic departments. They share the same meeting times, room, instructor(s), and curriculum. Therefore, ideally, they should also have the same course title. Students may only receive credit for the single section of the cross-listed course for which they are registered. Credit will not be awarded for a course where credit has been awarded for a cross-listed course.

## Changes

Course descriptions and numbers are accurate at the time of publication of the *Catalog*. For the most current information, please consult with the academic department or the Class Schedule online at selfservice.charlotte.edu.

# Arts + Architecture Honors Program (AAHP)

**AAHP 2600. Introductory Honors Seminar. (1)** Prerequisite(s): Acceptance in the College of Arts + Architecture Honors Program. Introduces Arts + Architecture Honors students to creative leadership, arts criticism, interdisciplinary interconnections among the spatial, visual, and performing arts, and the role of the arts in the community.

**AAHP 3701. Honors Seminar in Dance. (3)** Prerequisite(s): For students not enrolled in a University, College, or Departmental Honors Program, permission of instructor is required. Concentrated, in-depth study of a selected topic in the history, theory, and/or practice of dance. Topics and course content vary according to the interests and expertise of the faculty; however, the information and requirements are accessible to an interdisciplinary range of students from within and beyond the College of Arts + Architecture.

**AAHP 3702. Honors Seminar in Architecture. (3)** Prerequisite(s): For students not enrolled in a University, College, or Departmental Honors Program; permission of instructor is required. Concentrated, in-depth study of a selected topic in the history, theory, and/or practice of architecture. Topics and course content vary according to the interests and expertise of the faculty; however, the information and requirements are accessible to an interdisciplinary range of students from within and beyond the College of Arts + Architecture.

**AAHP 3703. Honors Seminar in Music. (3)** Prerequisite(s): For students not enrolled in a University, College, or Departmental Honors Program; permission of instructor is required. Concentrated, in-depth study of a selected topic in the history, theory, and/or practice of music. Topics and course content vary according to the interests and expertise of the faculty; however, the information and requirements are accessible to an interdisciplinary range of students from within and beyond the College of Arts + Architecture.

**AAHP 3704. Honors Seminar in Theatre. (3)** Prerequisite(s): For students not enrolled in a University, College, or Departmental Honors Program; permission of instructor is required. Concentrated, in-depth study of a selected topic in the history, theory, and/or practice of theatre. Topics and course content vary according to the interests and expertise of the faculty; however, the information and requirements are accessible to an interdisciplinary range of students from within and beyond the College of Arts + Architecture.

**AAHP 3705. Honors Seminar in Art and Art History. (3)** Prerequisite(s): For students not enrolled in a University, College, or Departmental Honors Program; permission of instructor is required. Concentrated, in-depth study of a selected topic in the history, theory, and/or practice of art. Topics and course content vary according to the interests and expertise of the faculty; however, the information and requirements are accessible to an interdisciplinary range of students from within and beyond the College of Arts + Architecture.

**AAHP 3706. Interdisciplinary Honors Seminar. (3)** Prerequisite(s): For students not enrolled in a University, College, or Departmental Honors Program, permission of instructor is required. Concentrated, in-depth study of a comparative or inter/multi-disciplinary topic in the history, theory, and/or practice of the visual and performing arts. Topics and course content vary according to the interests and expertise of the faculty; however, the information and requirements are accessible to an interdisciplinary range of students from within and beyond the College of Arts + Architecture.

**AAHP 3790. Honors Candidacy Proposal Writing. (1)** Production of a formal proposal describing the honors capstone project that you will complete next semester. Students will build the content for this proposal over the course of the semester. This assignment describes expectations and provides advice for completing the final product. Students should refer to it throughout the semester. For most students, the writing done in the proposal will form the foundation of the final capstone paper.

**AAHP 3791. Honors Thesis. (3)** Prerequisite(s): Permission of instructor and approval of a proposal through the Honors College Application to Candidacy process the semester prior to taking the course. An independent thesis project that combines a research agenda with appropriate exploratory practices for the student's discipline. In keeping with the nature of the disciplines of the College of Arts + Architecture, the final product of these theses may vary to include (but not be limited to) a written document, a performance, a concert, or an installation. In all cases, some written and graphic documentation of the ideas and process involved is required for the purposes of evaluation.

# Accounting (ACCT)

**ACCT 2121. Principles of Accounting I. (3)** Prerequisite(s): Sophomore, Junior, or Senior standing; and MATH 1120, MATH 1241, MATH 1242, STAT 1220, STAT 1221, STAT 1222, or STAT 2122 with grade of C or above. Fundamental accounting principles, with emphasis on the use of financial accounting data and analysis of financial statements.

**ACCT 2122. Principles of Accounting II. (3)** Prerequisite(s): ACCT 2121 with grade of C or above and Sophomore, Junior, or Senior standing. An introduction to managerial accounting with an emphasis on using accounting information to make decisions.

**ACCT 3300. Professional Development for Accountants. (1)** Pre- or Corequisite(s): ACCT 3311 or ACCT 3323 with a grade of C or better; Accounting or Pre-Accounting majors. Focuses on the transition from student to the Accounting Professional. Students explore various career tracks within public accounting and private industry, along with considerations around pursuing the CPA and other certifications. Students learn how to navigate through the pipeline to employment, including enhancing their interviewing and networking skills, as well as finding and securing internship opportunities. Professional workplace conduct is taught along with the importance of strong ethical behavior.

**ACCT 3311. Intermediate Financial Accounting I. (3)** Prerequisite(s): College of Business major; ACCT 2121, ACCT 2122, ECON 2101, ECON 2102, INFO 2130, MATH 1120 or equivalent, and STAT 1220 or equivalent, with grades of C or above. Analysis of the financial reporting

requirements of corporations with emphasis on the conceptual framework and accounting for assets.

**ACCT 3312. Intermediate Financial Accounting II. (3)** Prerequisite(s): College of Business major; and ACCT 3311 with grade of C or above. A continuation of ACCT 3311 with emphasis on financial reporting for liabilities and stockholders' equity. Other special topics covered include the accounting for investments and the statement of cash flows.

**ACCT 3323. Intermediate Accounting I. (3)** Prerequisite(s): Belk College of Business major and ACCT 2121 with grade of C or above. Pre- or Corequisite(s): INFO 2130 with a grade of C or above. An introduction to the key concepts, processes, and techniques that support the financial reporting process. Topics include: the accounting cycle, the conceptual framework, primary financial statements and disclosure, and the use of present value techniques in accounting measurement.

**ACCT 3324. Intermediate Accounting II. (3)** Prerequisite(s): Belk College of Business major and ACCT 3323 with grade of C or above. A continuation of ACCT 3323 with emphasis on financial reporting of key balance sheet accounts along with their income statements effects.

**ACCT 3325. Intermediate Accounting III. (3)** Prerequisite(s): Belk College of Business major and ACCT 3324 with grade of C or above. A continuation of ACCT 3323 and ACCT 3324 with emphasis on financial reporting issues related to special topics, including the accounting for income taxes, pensions, investments, and leases.

**ACCT 3330. Managerial Accounting and the Decision Process. (3)** Prerequisite(s): Accounting, Finance, or Business Administration major; and ACCT 2122 or ACCT 3323 or ACCT 3361 with grade of C or above. The concepts associated with internal reporting and business management using accounting data. Techniques in using relevant data for planning, controlling, and decision making are taught. Other topics include: understanding cost behavior, how to accurately assign or allocate costs, developing strong budgeting practices, and learning about responsibility accounting. Excel and Data Analytics are used throughout the course, highlighting the importance of these in the professional world.

**ACCT 3340. Accounting Information Systems. (3)** Prerequisite(s): College of Business major; ACCT 2121; ACCT 2122 or ACCT 3323, ECON 2101; ECON 2102; INFO 2130; MATH 1120 or equivalent; and STAT 1220 or equivalent; with grades of C or above. An introduction to accounting systems, with particular emphasis on business processes, internal controls, and current accounting technology including data analytics.

**ACCT 3350. Introduction to Auditing.** (3) Prerequisite(s): Accounting major; and ACCT 3312 or ACCT 3324 and ACCT 3340 with grade of C or above. Introduction to auditing and its role in the capital markets. Students will be introduced to the evaluation of risk, controls, designing and executing tests, and assessing audit evidence. Special attention is given to information technology, data analytics, and comparisons of internal and external auditing.

**ACCT 3361. Intermediate Financial Accounting 1. (4)** Prerequisite(s): ACCT 2121 with a grade of B or better; Sophomore standing or higher, or consent of the School of Accountancy. Enrollment limited to majors in the Belk College of Business. An introduction to the key concepts, processes, and techniques that support the financial reporting process. Topics include: the accounting cycle, the conceptual framework, primary financial statements and disclosure, and the use of present value techniques in accounting measurement.

**ACCT 3362. Intermediate Financial Accounting 2. (4)** Prerequisite(s): ACCT 3361 with a grade of C or better; Sophomore standing or higher, or consent of the School of Accountancy. Enrollment limited to majors in the Belk College of Business. An introduction to the key concepts, processes, and techniques that support the financial reporting process. Topics include: property, plant, and equipment, investments, short-term and long-term liabilities, leases, income taxes, shareholders' equity, and the statement of cash flows.

**ACCT 3365. Accounting Information Systems. (4)** Prerequisite(s): ACCT 3361 and INFO 2130, both with a grade of C or above; Sophomore standing or higher, or consent of the School of Accountancy. Enrollment limited to majors in the Belk College of Business. An introduction to accounting systems, with particular emphasis on accounting transaction processing cycles, internal controls, and analytic tools and methods commonly used in accounting.

**ACCT 3371. Financial Statement Analysis. (3)** Prerequisite(s): ACCT 3362 with a grade of C or above; Sophomore standing or higher, or consent of the School of Accountancy. Enrollment limited to majors in the Belk College of Business. Provides a framework for analyzing a firm's performance, for understanding a company's risk, and for valuing equity based on publicly disclosed financial information. The course integrates key concepts from financial reporting (mostly intermediate), corporate finance, economics, and business strategy and applies them to financial decision-making. A key element of the course is to provide a deeper understanding of the numbers presented in the financial statements and the information embedded in the notes, as well as the tools used to analyze them.

**ACCT 3372. Internal Auditing. (3)** Prerequisite(s): ACCT 3362 (or ACCT 3324) and ACCT 3365, all with a grade of C or above. Introduction to the internal audit profession and the internal audit process. Topics include: the definition of internal auditing, The IIA's International Professional Practices Framework (IPPF), risk, governance and control issues, conducting internal audit engagements, and data analytics in internal audit.

**ACCT 3380. Fraud Examination. (3)** Prerequisite(s): ACCT 3311 with grade of C or above. Examines the fraud problem faced by businesses and focuses on fraud prevention and detection. Involves the study of the different types of fraud as well as an examination of the various elements of a fraud investigation.

**ACCT 3400. Accounting Internship. (3)** Prerequisite(s): Junior or Senior standing; Accounting major in good standing; and permission of department. Provides a meaningful work experience in the field of accounting. Requires a minimum of 150 hours of supervised employment, 50 hours of work per credit hour. Student is responsible for securing internship and completing internship application and approval process prior to registering for the course. Internship must be approved by instructor. Application process and course registration must be completed prior to beginning internship. All proposals are subject to departmental approval. Students may not earn internship credit for work at a current employer. Some students work full-time during the period of the internship and should plan schedules for Junior and Senior years accordingly. May be used to meet general elective requirements, up to a

maximum of three credit hours. *Graded on a Pass/No Credit basis. May not be repeated for credit or taken for credit at the same time or following any other internship for credit.*

**ACCT 3500. Accounting Cooperative Education Experience. (0)** Prerequisite(s): Accounting major with department approval, in conjunction with the University Career Center. Enrollment is required for students participating in a cooperative education position during each semester they are working in a position. Participating students pay a course registration fee for transcript notation and receive full-time student status. Assignments must be arranged and approved in advance. The Cooperative Education Program is only open to undergraduate students; graduate level students are encouraged to contact their academic departments to inquire about academic or industrial internship options for credit. For information, contact the University Career Center. *May be repeated. Graded on a Satisfactory/Unsatisfactory basis.*

**ACCT 3900. Current Developments in Accounting. (1 to 3)** Prerequisite(s): Permission of department. Topics include: internal and external auditing, governmental accounting, income taxes, managerial accounting and accounting theory. A research project is required. *May be repeated for credit with change of topic.*

**ACCT 4220. Income Tax. (3)** Prerequisite(s): Accounting or Finance major; ACCT 3361 with grade of C or above. Cross-listed Course(s): ACCT 5220. An introduction to the Federal income tax system with emphasis on concepts and procedures applicable to all types of entities.

**ACCT 4225. Accounting Data Analytics. (3)** Prerequisite(s): ACCT 3365 with a grade of C or above; Enrollment limited to majors in the Belk College of Business. Cross-listed Course(s): ACCT 4225. An introduction to tools and techniques for gaining insight from accounting data. Students will focus primarily on descriptive and diagnostic analytics, the ETL process, and working with data stored in relational databases.

# Aerospace Studies (AERO)

**AERO 1100. Leadership Laboratory. (0 to 3)** Prerequisite(s): Permission of department. Corequisite(s): AERO 1101, AERO 1102, AERO 2101, AERO 2102, AERO 3101, AERO 3102, AERO 4101, or AERO 4102. Provides the opportunity to demonstrate fundamental management skills through execution of Air Force customs and courtesies, health and physical fitness, drill, and ceremonies. Students demonstrate command abilities by utilizing effective communication, physical fitness, and knowledge of military customs and courtesies. *May be repeated for credit while enrolled in Aerospace Studies courses. Graded on a Pass/No Credit basis.*

**AERO 1101. Aerospace Studies 100-1. (1)** Corequisite(s): AERO 1100. This course is taken during the Fall term of a student's first year in AFROTC, and is a survey course designed to introduce students to the Department of the Air Force (DAF) and provides an overview of the basic characteristics, missions, communications, and organization of the Air Force and Space Force.

**AERO 1102. Aerospace Studies 100-2. (1)** Prerequisite(s): AERO 1101. Corequisite(s): AERO 1100. This course is taken during the Spring term of a student's first year in AFROTC, and is a survey course designed to introduce students to the Department of the Air Force (DAF) and provides an overview of the basic characteristics, missions, communications, and organization of the Air Force and Space Force.

**AERO 2101. Aerospace Studies 200-1. (1)** Prerequisite(s): AERO 1102. Corequisite(s): AERO 1100. This course is taken during the Fall term of a student's second year in AFROTC, and provides a fundamental understanding of both leadership and team building. The lessons and course flow are designed to prepare students for field training and leadership positions in the detachment

**AERO 2102. Aerospace Studies 200-2. (1)** Prerequisite(s): AERO 2101. Corequisite(s): AERO 1100. This course is taken during the Spring term of a student's second year in AFROTC, and provides a fundamental understanding of both leadership and team building. The lessons and course flow are designed to prepare students for field training and leadership positions in the detachment.

**AERO 3101. Aerospace Studies 300-1. (3)** Prerequisite(s): AERO 2102. Corequisite(s): AERO 1100. This course is taken during the Fall term of a student's third year in AFROTC, and utilizes the student's field training experience to take a more in-depth look at leadership. Special emphasis is placed on enhancing communication skills and why that is important as a leader. Students have an opportunity to try out these leadership and management techniques in a supervised environment as juniors and seniors.

**AERO 3102. Aerospace Studies 300-2. (3)** Prerequisite(s): AERO 3101. Corequisite(s): AERO 1100. This course is taken during the Spring term of a student's third year in AFROTC, and utilizes the student's field training experience to take a more in-depth look at leadership. Special emphasis is placed on enhancing communication skills and why that is important as a leader. Students have an opportunity to try out these leadership and management techniques in a supervised environment as juniors and seniors.

**AERO 4101. Aerospace Studies 400-1. (3)** Prerequisite(s): AERO 3102. Corequisite(s): AERO 1100. This course is taken during the Fall term of a student's fourth year in AFROTC, and is designed for college seniors and provides the foundation to understand their role as military officers and how they are directly tied to our National Security. It is an overview of the complex social and political issues facing the military profession and requires a measure of sophistication commensurate with the senior college level.

**AERO 4102. Aerospace Studies 400-2. (3)** Prerequisite(s): AERO 4101. Corequisite(s): AERO 1100. This course is taken during the Spring term of a student's fourth year in AFROTC, and is designed for college seniors and provides the foundation to understand their role as military officers and how they are directly tied to our National Security. It is an overview of the complex social and political issues facing the military profession and requires a measure of sophistication commensurate with the senior college level.

# Africana Studies (AFRS)

**AFRS 1100. Introduction to Africana Studies. (3)** Interdisciplinary survey of key issues in the life and history of peoples of African descent

and their interaction with other peoples and world cultures; introduction to theoretical foundations in the field of Africana Studies.

**AFRS 1501. Global Social Science: Africana Studies. (3)** This Global Theme course uses the methods and insights of the social sciences to explore the central question of what it means to be a citizen of the world. Through the study of one or more different peoples, societies or cultures across the globe, students will be able to better understand themselves as part of complex, interconnected world. AFRS 1501 helps students build intercultural competency by exploring social, economic, political, and cultural developments among African and African descended peoples.

**AFRS 1512. Local Arts/Humanities: Africana Studies. (3)** This Local Theme course uses the methods and insights of the humanities to explore the central question of what it means to be a member of a "local" community. Through the study of the experiences of different peoples, cultures, and communities in our city, our region, or our nation, students will be able to better understand the complexity and diversity of the society in which we live. AFRS 1512 will examine the histories, politics, economics, and culture of African Americans and African descended peoples in the United States.

**AFRS 2050. Topics in Africana Studies. (3)** Treatment of a special topic. *May be repeated for credit with change of topic and permission of department.*

**AFRS 2103. Introduction to Hip Hop. (3)** Examines the musical, corporeal, visual, spoken word and literary manifestations of hip hop from its early years to the present, focusing especially on the political, aesthetic, and lifestyle ramifications of hip hop in the US. The Black cultural practices and the intercultural relations across race, class, and gender that have given rise to the various forms of hip hop in North America will also be analyzed.

**AFRS 2105. Black Images in the Media in the U.S. (3)** Cross-listed Course(s): COMM 2120. Examination of African American images projected through electronic and print media, historically and currently.

**AFRS 2107. Global Hip Hop. (3)** Cross-listed Course(s): SOCY 2107. The development and growth of Hip Hop from a US inner city Black expressive culture to a global subaltern social movement. Examines cultural production in Hip Hop in relation to the contemporary global issues that focus on the youth, subalterns, and postcolonial experiences.

**AFRS 2111. Yoruba Language and Culture I. (3)** Cross-listed Course(s): LANG 1201. First semester elementary Yoruba language and introduction to Yoruba culture. The primary goal is to provide students with the basic spoken, reading, and writing knowledge of Yoruba language, and the cultural and social contexts in which the language functions.

**AFRS 2112. Yoruba Language and Culture II. (3)** Cross-listed Course(s): LANG 1202. Prerequisite(s): AFRS 2111, Second semester elementary Yoruba language, and introduction to Yoruba culture. The primary goal is to provide students with the basic spoken, reading, and writing knowledge of Yoruba language, and the cultural and social contexts in which the language functions.

**AFRS 2120. African American Women. (3)** Cross-listed Course(s): WGST 2120. Explores how cultural, political, historical and economic factors shape African American women's positions and opportunities in society today.

**AFRS 2156. African Civilization. (3)** Cross-listed Course(s): ANTH 2156. A survey of major cultural innovations and foundations of civilizations in ancient Africa; examination of the origins of ideas, beliefs, institutions, and practices; and the philosophical, religious, social, political and economic foundations of ancient African civilizations. Draws from a wide range of historical sources, especially archaeology, language, literary, oral traditions, and material culture.

**AFRS 2160. The African American Experience through Civil War. (3)** Cross-listed Course(s): HIST 2160. Exploration of circumstances that brought Africans to the Americas and their experience during the era of slavery. Emphasis on the political, economic, and socio- cultural systems that maintained slavery in the South and constrained freedom in the North and the responses and struggles of African Americans. Topics include: slavery/slave trading to the Americas; the system of slavery in British North America; free blacks; political compromises sustaining the peculiar institution; and the impact of the Civil War and Reconstruction on the freedom, citizenship, and suffrage of African- Americans.

**AFRS 2161. The African American Experience: Civil War to Civil Rights. (3)** Cross-listed Course(s): HIST 2161. Prerequisite(s): AFRS 1100 for majors; it is strongly encouraged that students take AFRS 2160 before enrolling in this course. Exploration of the African American experience from the Civil War to the present and the struggle of freed slaves and free people of color in garnering the promises of emancipation and the changing status of African Americans in American society. Interdisciplinary survey of key eras, issues, debates, and personalities in the African American experience from 1865 to the present.

**AFRS 2170. Introduction to Health and Environmental Issues in the Africana World. (3)** A general introduction to the cultural, social, political, ethical, and psychological dimensions of health and environmental issues affecting the African and African Diaspora peoples globally, and the policy implications.

**AFRS 2172. Black Sexuality and Health. (3)** Examines the intersection of sexuality, gender, race, class, and ethnicity, and how they influence social relations and health. Students are introduced to the critical concepts of sex, gender, and sexuality; the links between becoming gendered, sexuality and heterogeneity within African American populations and the impact it has had on health-related issues.

**AFRS 2174. Environmental Literature in Africa and the Caribbean. (3)** Introduction to an environment-centered approach in literary and cultural studies through the study of a selection of poems, fictions, plays, and critical literary essays by African and Caribbean writers. Cultural and environmental studies are brought into interdisciplinary dialogue about nature, conservation, and development in Africa and the Caribbean. Also explores the contributions of postcolonial studies to eco-criticism and the narratives of environmental justice in developing countries.

**AFRS 2206. African Literature, Music, and Art. (3)** Survey of socio-cultural context in which African literature, music, and art function; examination of the impact of changes resulting from international dependence and improved communications across continents and cultures; parallels drawn with other regions of the world, particularly the US and Europe. Creative research or community projects required.

**AFRS 2207. Pan-Africanism. (3)** Study of the Pan-African movement; examination of historical and contemporary efforts of peoples of African descent to unite their struggles for human advancement, political independence, and equality in Africa, the US, the Caribbean, Western Europe, and Afro-Latin American. Included in the study are popular movements, leading proponents, and related organizations.

**AFRS 2215. Black Families in the United States. (3)** Critical and comprehensive examination of the life of African American families in the United States including the historical evolution of black families and their relationship with the political-economic structures of American society.

**AFRS 2221. Modern Africa. (3)** Cross-listed Course(s): GLST 2101 and HIST 2211. A survey of major developments in the 19th and 20th century Sub-Saharan Africa, with emphasis on the European conquest, the colonial period, and the triumph of modern African nationalism.

**AFRS 2301. Introduction to African American Literature. (3)** Cross-listed Course(s): ENGL 2301. Prerequisite(s): WRDS 1103 or WRDS 1104 with a grade of C or above, or permission of department. Survey of the major periods, texts, and issues in African American literature.

**AFRS 3050. Topics in Africana Studies. (3)** Treatment of a special topic. *May be repeated for credit with change of topic and permission of department.*

**AFRS 3101. Perspectives on Race and Ethnicity in the US. (3)** Study of values and make-up of American pluralistic society in historical and contemporary context. Focus on the understanding of African American values and the role of ethnicity and race.

**AFRS 3121. Contemporary African Art. (3)** Cross-listed Course(s): ARTH 3121. Prerequisite(s): ARTH 1211 or ARTH 1212, or any AFRS course with grade of C and above, or permission of instructor. Survey of contemporary African artists and artworks (1960s to the present day), on the continent and in the diaspora, with international profiles. Readings and discussions focus on politics, gender, class, identity, and mobility.

**AFRS 3150. The African American Church and Civil Rights. (3)** Cross-listed Course(s): RELS 3150. Role of the African American church in the struggle for human equality. Topics such as radical, moderate, and accommodationist leadership styles; historical development of the black church in the South; and its emergence as a foundation for modern civil rights movement.

**AFRS 3154. Globalization in African History. (3)** Cross-listed Course(s): HIST 3154. Examines how the emergence of globalization and global interdependency has impacted the African continent in social, economic, political, cultural, and historical contexts. Discussion of major concepts and thinkers; with specific attention to recent historical developments, successes, and challenges.

**AFRS 3155. Health and Healing in Africa. (3)** Provides an historical context for some of the major healthcare challenges facing Africa today. Traces the history of health and healing from the pre-colonial era through the period of colonial rule, and since political independence. Both the Africa-centered and Western methods of healing and conceptions of health and illness are examined at different junctures in African history.

**AFRS 3159. African American Poetry. (3)** Cross-listed Course(s): ENGL 3159. Intensive study of African American poetry, focusing on one period or traversing several.

**AFRS 3179. African American Political Philosophy. (3)** Cross-listed Course(s): POLS 3172. Prerequisite(s): 3000-level course on Africa from AFRS, POLS, or HIST. Analysis of competing ideologies in African American political philosophy.

**AFRS 3192. African Cinema. (3)** A study of the relationship of African film/video production to historical and contemporary issues in Africa; and the sociopolitical contexts, intertextuality, and aesthetics of African film/video production.

**AFRS 3200. Folklore of Africa and the African Diaspora. (3)** A study of the relationships among African and African Diaspora folktales, folk beliefs, customs, legends, myths, proverbs, poetry, songs, performance, narratives, symbols, and social practices. Using an interdisciplinary approach, the course identifies parallel tales and verbal and performance arts in the Mother Continent and the Diaspora and also studies how geographical environments and historical experiences have impacted new manifestations of African folklore.

**AFRS 3218. Racial Violence, Colonial Times to Present. (3)** Cross-listed Course(s): HIST 3218. Examines the ways in which African Americans and Whites used violence both as part of struggles for liberation and freedom as well as repression from the colonial period to the present in the United States. Focuses on the broader processes of social, political, and cultural change and at efforts to build cooperation.

**AFRS 3240. Race and the Law. (3)** Cross-listed Course(s): HIST 3240 and LEGL 3241. Explores the unique role law has played in establishing the status of persons of African descent in the Americas, with a focus on the United States. Students investigate how the legal history of African Americans has shaped American race relations over the past 400 years by tracing the evolution of race, racism, and racial formations as a function of America's legal system.

**AFRS 3250. African Americans and Health Communication. (3)** Focuses on the use of communication strategies to inform and influence individual and community decisions regarding health among African American populations. Considers how health messages are created and the impact they have on African Americans within the context of their lives.

**AFRS 3260. Slavery, Racism, and Colonialism in the African Diaspora. (3)** Cross-listed Course(s): LTAM 3260 and HIST 3190. Designed to explore how race and racism, slavery, and colonialism served as principal institutions and constructs shaping the experience between Africa and the emerging African Diaspora in the New World. Students will consider how the maintenance of Western social, economic, and political superiority materialized as functions of these three important historical developments.

**AFRS 3261. Psychology of the Black Experience. (3)** A study of the psychological issues relating to the Black experience in the Americas, using Africa-centered philosophical and psychological frameworks to examine how Black subjectivities have been constructed historically, and

how this affects human motivations, self-perceptions, cultures, and behaviors among Africa-descended populations.

**AFRS 3262. Philosophy and Race. (3)** Cross-listed Course(s): PHIL 3262. Examines the role of the concept of race in the Western philosophical canon, and uses current philosophical texts and methods to examine Western discourses of race and racism. Issues such as whiteness, double consciousness, the black/white binary, Latino identity and race, ethnicity, mixed-race identity, and the intersection of race with gender and class are also examined.

**AFRS 3264. Business Culture and Entrepreneurship in Africa. (3)** A study of the institutional practices associated with African business culture and entrepreneurship in local, national, and global spaces. A deep historical approach is taken, covering pre-modern entrepreneurial and business culture; how traditions and cultural practices influence the way Africans conduct business; how these have been shaped by the realities of modernity and globalization; and the challenges facing institutional business practices and entrepreneurs in Africa and its emerging market economies.

**AFRS 3265. African Economic Development. (3**) Focus on economic theories, planning, production, and resource allocation strategies, capital formation, foreign aid, and multinational corporations in Africa.

**AFRS 3270. Afro-Latin American History. (3)** Cross-listed Course(s): LTAM 3270 and HIST 3181. This course explores the African Diaspora in Latin America ranging from the Caribbean Sea to the Rio de la Plata. From slavery, to fighting for freedom in the Spanish-American Wars of Independence, to forging new notions of citizenship in twentieth century Brazil, African-descended peoples have an important place in Latin America's historical past. According special attention to regions with concentrated populations of African-descended peoples, this course reveals the vibrant history of Afro-Latin America.

**AFRS 3278. Race in the History of Brazil. (3)** Cross-listed Course(s): LTAM 3278 and HIST 3178. Examining the history of Brazil since Portuguese colonization, this course focuses on experiences, struggles, and debates revolving around questions of race and identity. The course interrogates the construction of a slave society, abolition, negotiation of freedom for slaves, and debates around national identity that attended the formation of the Brazilian republic and which have shaped the country in the 20$^{th}$ century. The Brazilian experience will be approached comparatively, using the United States and other areas of the African Diaspora for context.

**AFRS 3290. Research Methods. (3)** Prerequisite(s): AFRS 1100 or AFRS 4010; and Junior or Senior standing; or permission of instructor. Prepares students to conduct independent research. Introduces the processes of conceptualization and basic research techniques, and some of the issues related to conducting research on the Black experience. A variety of appropriate studies and methods are utilized over the course of the semester.

**AFRS 3328. West African Art and Display. (3)** Cross-listed Course(s): ARTH 3328. Prerequisite(s): Any AFRS course with a grade of C or above, or permission of instructor. Addresses major genres, monuments, and issues of artistic production in West Africa. Readings and discussions focus on politics, identity, gender, performance, collection, and display.

**AFRS 3395. African American Art. (3)** Cross-listed Course(s): ARTH 3395. Survey of the major movements and issues of African American artistic production, from the 17th century to the present day. Readings and discussions focus on stylistic developments, politics, race, gender, identity, and representation.

**AFRS 3692. Colloquium. (3)** Prerequisite(s): Permission of instructor. A weekly colloquium; research and writing; opportunity for intellectual stimulation, critique and problem solving. Open to majors and non-majors.

**AFRS 3895. Independent Study. (1 to 3)** Prerequisite(s): Permission of department. Supervised investigation of a problem or subject in the field of Africana Studies. *May be repeated for credit.*

**AFRS 3990. Senior Project in Africana Studies. (2-15)** Prerequisite(s): Senior standing. Completion of a senior research paper on an academic topic or a community-related written project. Emphasis on mastery of academic skills and content of the field or specific discipline.

**AFRS 4050. Topics in Africana Studies. (3)** Cross-listed Course(s): GEOG 4700. Treatment of a special topic. *May be repeated for credit with change of topic and permission of department.*

**AFRS 4100. African Diaspora Theory. (3)** Explores the diverse conceptual and theoretical perspectives in the African Diaspora Studies, with emphasis on the dialectical relationships between social theories and the African Diaspora, especially as these relate to the issues of race, identity, gender, migrations, cultural production, and transnationalism.

**AFRS 4105. African International Relations. (3)** Cross-listed Course(s): POLS 3169. Examines Africa's relations with external powers (including Europe, the United States, and China), cooperation among African countries, the role of non-state actors in African conflicts, and U.S. policy toward the continent.

**AFRS 4401. Professional Internship in Africana Studies. (3)** Prerequisite(s): Permission of department chair; Junior or Senior standing; Africana Studies major or minor; a minimum GPA of 2.5; AFRS 1100; and up to 12 credit hours of other AFRS courses. Internship in wide-ranging working environments, including government establishments, private businesses, as well as not-for-profit organizations, especially those focusing on issues affecting African and African Diaspora populations. The internship provides students with experiential learning in an environment that is consistent with the student's professional goals and growth.

**AFRS 4600. Senior Seminar in Africana Studies. (3)** Prerequisite(s): Senior standing. This advanced seminar explores a wide-body of literature selected as the eminent scholarship in the field of Africana Studies. Students read, analyze, and critique the scholarly literature of the field and prepare written assignments conceptualizing the course readings and discussions.

**AFRS 4630. Environmental and Public Health in Africa. (3)** In-depth analysis of environmental and public health hazards in Africa, including pandemic, as well as the principles and practice of public health, pollution control, and waste management. The social and political contexts of the environmental and health issues in Africa are emphasized throughout.

**AFRS 4640. Environment, State, and Society in the Caribbean and Latin America. (3)** The history of the environment in Latin America and the Caribbean, especially the impacts on race, labor, culture, political relations, and state formation from the pre-Columbian period through the present.

**AFRS 4652. Race, Health, and the African Diaspora. (3)** Global approaches to health disparities throughout the African Diaspora using racial, gender, class, and development theoretical frameworks. Explores the comparative relationships between contemporary social and historical factors determining the health status of peoples of African descent residing in different areas of the world.

**AFRS 4790. Africana Studies Senior Honors Project/Thesis. (3)** Prerequisite(s): AFRS 3290 (Honors section) or AFRS 4010 (Honors section) with a grade of B or above; Africana Studies major with a GPA of at least 3.25 in all Africana Studies courses counted toward the major and taken at UNC Charlotte, GPA of at least 3.0 for all coursework taken at UNC Charlotte, and approval of a project/thesis proposal through the Honors College Application to Candidacy process the semester prior to taking the course. Students complete the research, analysis, writing, and oral presentation of the honors project/thesis under the supervision of an honors faculty advisor. The project/thesis must address any aspect of African and African Diaspora affairs (including African American life); and must be driven by the quest to solve an applied problem, or develop a better understanding of a theoretical or practical issue. The final product may be in form of a digital (e.g., web-based), textual (a minimum of 20-page paper, double-spaced), database development, or creative work; and must demonstrate evidence of scholarly rigor, intellectual curiosity, and creative problem-solving.

# American Democracy (AMDM)

**AMDM 1575. Engaging with American Democracy. (3)** An interdisciplinary examination of issues or concepts related to American democracy, with attention to key historical documents including but not limited to: the Declaration of Independence, the U.S. Constitution, select Federalist Papers, the Gettysburg Address, the Emancipation Proclamation, and Dr. Martin Luther King Jr.'s Letter from Birmingham Jail. Additional texts and topics may vary, depending on the specific section.

# American Studies (AMST)

**AMST 2050. Topics in American Studies. (3)** An introduction to the interdisciplinary approach focusing on aspects of American culture and society. *May be repeated for credit with change of topic and permission of advisor.*

**AMST 2100. Introduction to American Indian Studies. (3)** An introduction to the study of the American Indian experience through selected academic disciplines (e.g., anthropology, history, political science, religious studies) and American Indian intellectual perspectives on, and response to, these disciplines.

**AMST 3050. Topics in American Studies. (3)** Cross-listed Course(s): HIST 3272. Introduction to the interdisciplinary approach, demonstrating how traditionally distinct disciplines, such as literature and history, or art and political science, interrelate and contribute to an understanding of an American topic. *May be repeated for credit with change of topic and permission of advisor.*

**AMST 3090. Topics in American Film. (3)** An in-depth treatment of an American film director, subject, or genre. *May be repeated for credit with change of topic and permission of advisor.*

**AMST 3100. Introduction to American Studies. (3)** Introduction to American culture through an in-depth study of a single decade or era, such as the 1830s, 1890s, 1920s, 1950s or 1960s. Focus on how diverse social, economic, artistic, literary, philosophical, and political forces have shaped American society. Students examine the complex and multifaceted nature of American culture, both as it pertains to the specific era under study and to the present day. *May be repeated for credit with change of topic and permission of advisor.*

**AMST 3800. Independent Study or Directed Reading in American Studies. (1 to 3)** Prerequisite(s): Permission of American Studies Coordinator. Intended for students who wish to conduct individual investigations related to American Studies. Not limited to American Studies students but should be under the supervision of an American Studies advisor or designate. *May be repeated for credit one time with permission of advisor.*

**AMST 4050. Topics in American Studies. (3)** In-depth study using an interdisciplinary approach focusing on aspects of American culture and society. *May be repeated for credit with change of topic and permission of advisor.*

# Anthropology (ANTH)

**ANTH 1101. Introduction to Anthropology. (3)** Biological and cultural evolution; archaeology; language and culture; comparative study of human social institutions such as kinship, subsistence patterns, religion, politics; methods and theories. *May not be taken for credit and for a grade if credit has been received for ANTH 1501.*

**ANTH 1501. Global Social Science: An Introduction to Anthropology. (3)** This Global Theme course uses the methods and insights of the social and natural sciences to explore the central question of what it means to be a citizen of the world. Through the study of one or more different peoples, societies, or culture across the globe students will be able to better understand themselves as part of a complex, interconnected world. ANTH 1501 is a holistic exploration of humanity across time and space. It explores human evolution and our relationships with other primates; the connections between language and culture; cross-cultural similarities and differences; and the various ways culture and societies have changed from the distant past to the present. Throughout the course, students will gain an understanding of contemporary human variability, social and environmental problems, power and inequalities, and global connections. *May not be taken for credit and for a grade if credit has been received for ANTH 1101.*

**ANTH 1511. Local Social Science: Money, Health, and Happiness. (3)** This Local Theme course uses the methods and insights of the social sciences to explore the central question of what it means to be a member of a "local" community. Through the study of the experiences of different peoples, cultures, and communities in our city, our region, or our nation students will be able to better understand the complexity and diversity of the society in which we live. ANTH 1511 takes a critical and ethical look at the interconnections between culture, money, work, health, and well-being, with particular attention to inequities and opportunities for improvement. Students engage with real-world problems and issues around these topics and asks them to discuss potential solutions.

**ANTH 2010. Topics in Ethnography. (3)** Investigation of ethnographic regions of the world. *May be repeated for credit with change of topic.* Examples: Cultures of the Pacific; Cultures of the Mediterranean.

**ANTH 2020. Topics in Cultural Anthropology. (3)** Specialized topics in Cultural Anthropology. Examples include: Cultures of East Asia; Circumpolar Peoples of the New World. *May be repeated for credit with change of topic.*

**ANTH 2040. Topics in Biological Anthropology. (3)** Specialized topics in Biological Anthropology. Examples include: Living Primates of the New World; Cultures of Early Homo sapiens. *May be repeated for credit with change of topic.*

**ANTH 2050. Topics in Archaeology. (3)** Specialized topics in archaeology. *May be repeated for credit with change of topic.* Example: Archaeology of Gender.

**ANTH 2090. Topics in Anthropology. (1 to 3)** Specialized topics in anthropology. *May be repeated for credit with change of topic.* Examples: Hunters and Gatherers; Political Anthropology.

**ANTH 2112. North American Indians. (3)** Survey of the native peoples of America; culture at the time of European contact; major historical events and relationships; contemporary issues in Indian affairs.

**ANTH 2114. Indians of the Southeastern United States. (3)** Study of American Indians of the Southeastern United States with emphasis on tribes of the Carolinas. Areas of investigation include pre-contact cultures, Indian-European contact relationships, history, and contemporary Southeastern Indian issues.

**ANTH 2116. Contemporary Latin America. (3)** Cross-listed Course(s): LTAM 2116. A survey of the people and cultures of Mexico, Central America, South America, and the Caribbean. Areas of investigation include religion, race, ethnicity, gender, kinship, social inequality, and economic development.

**ANTH 2117. Cultures of the Caribbean. (3)** Cross-listed Course(s): GLST 3114 and LTAM 2117. An introduction to society and culture in the Caribbean region. Areas of investigation include ethnicity, nationalism, family and community structure, economy, religion, and politics.

**ANTH 2121. The Development of Topics and Themes in Sociocultural Anthropology. (3)** Using classic and modern ethnographic texts key concepts are explored in social-cultural anthropology (e.g., belonging, classification, kinship, conflict, politics and economics, technology, illness and healing, movement, time and space, production, exchange and consumption, and the body). These themes are examined through anthropological concepts of power, belief and knowledge, change, culture, identity, materiality, social relations, society, and symbolism. Our aim is to trace how these notions were initially conceptualized by anthropologists and how they have been challenged and reworked by subsequent anthropologists to make sense of the complex world in which we live.

**ANTH 2122. Beliefs, Symbols, and Rituals. (3)** Structure and content of systems of belief and ritual; role in social life; analysis of religion, myth, magic, witchcraft, symbol systems, cult movements, and religious change.

**ANTH 2123. Women in Cross-Cultural Perspective. (3)** Cross-listed Course(s): WGST 2123. A cross-cultural survey of the lives of women and the dynamics of gender throughout the world. Uses anthropological research to examine how gender influences evolution, social stratification, work, kinship, and perceptions of the body.

**ANTH 2125. Urban Anthropology. (3)** Cross-cultural analysis of urban life; rise of early cities; rural-urban differences; migration; ethnicity, urban poverty; effects of urban life on kinship systems; modernization.

**ANTH 2126. World Population Problems. (3)** An examination of various world population "problems," such as growth, migration, fertility, and population aging, in order to learn how cultural, political, economic, and environmental factors influence and are influenced by the population structure of a given society.

**ANTH 2127. Environmental Anthropology. (3)** Anthropological approaches to environmental issues as they affect people around the world, including the relationships between humans and their natural environments, cultural knowledge about environments, the role of wealth and inequality in environmental interactions, international and global environmental governance, and the effects of these on management decisions and outcomes.

**ANTH 2131. Introduction to Peace, Conflict, and Identity Studies. (3)** Cross-listed Course(s): GLST 2131. Asks what identity is and why it matters in people's lives. Offers a cross-cultural examination of the role of different forms of identity including race, ethnicity, gender, nationalism, and class in causing and resolving conflicts. Case studies from different parts of the world are explored.

**ANTH 2141. Our Place in Nature: Introduction to Biological Anthropology. (4)** Corequisite(s): ANTH 2141L. Evolutionary theory; primates; primate and human evolution; population genetics; human variation; osteology; bioethics.

**ANTH 2141L. Our Place in Nature: Introduction to Biological Anthropology Lab. (0)** Corequisite(s): ANTH 2141. Two-hour laboratory session per week. In-depth discussion and debate of assigned readings and anthropological issues presented in lecture and films; hands-on experience with human osteological material, skeletal material of living primates, and casts of major fossil primates and hominids.

**ANTH 2142. Primate Behavioral Ecology. (3)** Prerequisite(s): ANTH 2141 or the equivalent or permission of instructor. An examination of primate diversity, including evolution, ecology, social behavior (e.g., communication, aggression, male-female social dynamics, mother-

infant bonding, infant development, etc.), reproductive strategies and conservation of prosimians, monkeys, and apes.

**ANTH 2143. The Fossil Evidence for Human Evolution. (3)** Prerequisite(s): ANTH 2141 or the equivalent or permission of instructor. The theory, methods, and fossil evidence utilized in studying the evolutionary biology of the primates, including humans. Emphasizes the morphological and behavioral/cultural adaptations and phylogeny of fossil and living human/nonhuman primates, focusing on the fossil evidence for reconstructing the human lineage, particularly within the genus *Homo*.

**ANTH 2144. Neanderthals and Us. (3)** Prerequisite(s): ANTH 2141 or permission of instructor. Explores the life, times, culture and fate of the Neanderthals. Using data derived from the fossil record, archaeology, and genetics, we will examine crucial questions about Neanderthals, including: Who were they? What bio-cultural adaptations allowed them to expand their geographic range and exploit diverse habitats so successfully? What was their lifestyle like and how were they culturally distinct from previous hominids? What happened to them? Do they have any relationship to modern humans like us?

**ANTH 2151. Introduction to Archaeology. (3)** Archaeological method and theory; important archaeological sites and cultures from Old and New Worlds; ethics and public policy in archaeology.

**ANTH 2152. New World Archaeology. (3)** Cross-listed Course(s): LTAM 2252. Prehistory of North America; Paleoindians, Eastern United States, Southwest, Mexico; archaeological methods and theory.

**ANTH 2153. Historic Archaeology. (3)** Theories, methods, and data of the archaeology of the post-1492 world; integration of archaeological and documentary research; globalization through material culture; emphasis on North America.

**ANTH 2156. African Civilization. (3)** Cross-listed Course(s): AFRS 2156. A survey of major cultural innovations and foundations of civilizations in ancient Africa; examination of the origins of ideas, beliefs, institutions, and practices; and the philosophical, religious, social, political and economic foundations of ancient African civilizations. Draws from a wide range of historical sources, especially archaeology, language, literary, oral traditions, and material culture.

**ANTH 2161. Introduction to Linguistic Anthropology. (3)** In-depth survey of linguistic anthropology, one of the four major sub-fields of anthropology; study of the relationship between language and culture, with a particular focus on how individual practices and societal norms intersect.

**ANTH 2171. Engaging the Human Experience: Applying Anthropology in Life and Work. (3)** A broad overview of how anthropologists address current problems and issues facing communities around the world, and the role of anthropology in global and local issues. Applied anthropology has become an increasingly relevant field as globalization has intensified the necessity for improved cultural understanding and communication both within and across borders. Applied anthropologists are found in a vast array of occupations outside of academia, including jobs in the corporate world, medical and health fields, tourism industry, environmental and other activist positions, the development field, gerontology, social work, and in nonprofit organizations. This course helps students understand the relevance of anthropology for important issues and problems facing their communities.

**ANTH 3020. Topics in Cultural Anthropology. (3)** Prerequisite(s): ANTH 1501. Specialized topics in Cultural Anthropology. Examples include: Contemporary Mayan Religion, Pastoralism in Central Asia. *May be repeated for credit with change of topic.*

**ANTH 3040. Topics in Biological Anthropology. (3)** Prerequisite(s): ANTH 2141 or permission of instructor. Specialized topics in Biological Anthropology. Examples include: Primate Taxonomy and Systematics; Historical Development of Scientific Racism. *May be repeated for credit with change of topic.*

**ANTH 3050. Topics in Archaeology. (3)** Prerequisite(s): ANTH 2151 or permission of instructor. Specialized topics in Archaeology. Examples include: Inka Civilization; Regional Commerce in the Ancient Mediterranean. *May be repeated for credit with change of topic.*

**ANTH 3090. Topics in Anthropology. (1 to 3)** Prerequisite(s): ANTH 1501 or permission of instructor. Examination of specialized topics in anthropology. *May be repeated for credit with change of topic.* Examples: Art and Anthropology, Ecological Anthropology.

**ANTH 3112. Globalization and Culture. (3)** Cross-listed Course(s): GLST 3112. Explores the relationship between processes of globalization and cultural change, considering the breakdown of the connection between lived cultural experience and territorial location. Of special interest are issues of cultural homogenization, cultural hybridization, and emergent cultural identities brought about by the flows of people, ideas, and objects in the contemporary world.

**ANTH 3113. Economic Anthropology. (3)** Prerequisite(s): ANTH 1501, ECON 1101, ECON 2102, or permission of instructor. Intellectual roots of anthropological approaches to economy, formalist-substantivist debate, distribution and exchange, commodities, consumption, and material culture.

**ANTH 3117. Narratives and Conflicts. (3)** Cross-listed Course(s): GLST 3117. In conflict situations, competing interpretations of the past can become part of the struggle itself as each side vies for recognition of its version of events. This course focuses on the role these stories play in the historical development of conflicts and the effects they have on efforts to resolve them. It also focuses initially on the role of narratives in the Israeli-Palestinian conflict. Students have the opportunity to explore other cases, including Northern Ireland, Bosnia, and South Africa.

**ANTH 3124. Food, Nutrition, and Culture. (3)** Prerequisite(s): ANTH 1501 or permission of instructor. An examination of how food provides special insight into cultures throughout the world. Topics include: the symbolic and social value of food, the social construction of taste, dietary change, food and health, cannibalism, and famine.

**ANTH 3125. Food and Globalization. (3)** Cross-listed Course(s): GLST 3125. Explores the relationship of the modern food system to larger complex economic, political, and cultural processes. Considers how increasing global interaction and interdependence has transformed how we grow, distribute, and consume food. Topics include: the development of the agro-industrial complex; the formation of new food preferences,

eating practices, and taste publics; and, the emergence of alternative fair trade, organic, local, and slow food movements.

**ANTH 3126. Anthropology of Vampires, Ghosts, and Witchcraft. (3)** Prerequisite(s): ANTH 1501. Explores the political, economic, historical, social, and cultural dimensions of vampires, ghosts, and elements of witchcraft. Drawing on European, African, Southeast Asian, and other comparative examples, commonalities and differences in occult belief systems are illuminated. Also examines how and why beliefs emerge and change with the forces of modernity, and what occult figures mean in their specific cultural contexts.

**ANTH 3127. Anthropology of Violence. (3)** Cross-listed Course(s): HGHR 3050. Examines numerous types of violence in comparative perspective, from family violence to large scale wars and genocide. Starting with popular understandings of the causes of violence, the course proceeds to cross-cultural investigations of why violence occurs in particular forms in specific times and places. Emphasis is placed on critical reflection and integration of anthropological perspectives.

**ANTH 3135. Origins of Globalization. (3)** Cross-listed Course(s): GLST 3135. An analysis of European colonial expansion from the 16th through the 19th centuries, emphasizing the creation of the first global systems of political, economic, and cultural interaction that form the foundation of modern globalization. Using a cross-cultural approach, the course explores the competition and conflict among the great powers and the effects of conquest and colonialism on the indigenous peoples of Africa, Asia, and the Americas.

**ANTH 3136. Globalization and Resistance. (3)** Cross-listed Course(s): GLST 3136. A cross-cultural analysis of changing patterns of resistance by indigenous peoples to the political, cultural and economic effects of globalization from the colonial period to the present. Using case studies from the Americas, Africa, and Asia, the course examines a variety of indigenous resistance strategies and movements and the socio-political dynamics that have driven them and impacted on their effectiveness.

**ANTH 3141. Human Osteology. (3)** Prerequisite(s): ANTH 2141 or permission of instructor. Students learn to identify all 206 bones and 32 teeth of the human skeleton. This knowledge is then applied to understand how forensic anthropologists and bioarchaeologists reconstruct past lifestyles, health, behavior, and identity at the individual and population levels.

**ANTH 3143. Race and Anthropology. (3)** Prerequisite(s): ANTH 2141 or permission of instructor. The goal of this course is to confront the nature and significance of biological diversity in the human species, and the ways in which they have been interpreted and represented scientifically. The three general topics to be covered will be: (1) the history of the study of human diversity and its patterns; (2) the body; and (3) the mind.

**ANTH 3144. Evolutionary Anthropology. (3)** Prerequisite(s): ANTH 2141 or permission of instructor. The aim of this course is to familiarize students with the classic and contemporary literature and issues in evolutionary theory, particularly as applied to human origins. Topics include: primate systematics, homology, adaptation, hierarchy, speciation, and sociobiology.

**ANTH 3145. Anthropological Genetics. (3)** Prerequisite(s): ANTH 2141 or permission of instructor. The goal of this course is to engage genetic knowledge as it relates to humans, particularly in the context of the cultural, social, and ideological issues it overlaps, such as race, behavior, counseling, gender, and indigenous property rights. Readings and discussions will incorporate both the scientific and the social issues.

**ANTH 3152. Early Civilizations. (3)** Prerequisite(s): ANTH 1501 or 2151 or permission of instructor. Great civilizations of Old and New Worlds; Mesopotamia, India, Greece, Africa, Egypt, China, Mexico, Peru; theories of cultural evolution; beginnings of complex societies; archaeological theory and method; environment, and ecology of first civilizations.

**ANTH 3153. Archaeological Analysis. (3)** Prerequisite(s): ANTH 2151 or permission of instructor. Advanced study of archaeological method and theory; analytical methods; statistics in archaeology.

**ANTH 3154. European Prehistory. (3)** Prerequisite(s): ANTH 1501 or 2151 or permission of instructor. Prehistory of Europe; Paleolithic, Neolithic, Bronze Age, Iron Age; archaeological methods and theory; ecology and social systems of early European cultures.

**ANTH 3157. South American Prehistory. (3)** Cross-listed Course(s): LTAM 3257. Archaeology of the indigenous cultures in South America from the earliest settlement until the arrival of the Spanish, including Moche, Nasca, and Inca; focus on the Central Andean region including Peru, Bolivia, Chile, and Ecuador; examination of the origins of agriculture, interactions of people and the environment, rise and collapse of states and empires, and the role of religion and warfare in ancient societies.

**ANTH 3160. Gender, Culture, and Communication. (3)** Addresses cultural experiences of gender through communication; material covered includes cultural constructions of femininity and masculinity, cultural socialization toward gender and sexuality, gendered communication in private and public settings, popular representations of gender and sexuality in U.S. media, and language diversity based upon ethnicity, class, gender, and sexual orientation.

**ANTH 3222. Culture, Health, and Disease. (3)** Relationship between cultural beliefs and practices and patterns of health and illness in human populations; role of disease in ecology and epidemiology, nutrition, cultural systems of healing, roles of patient and healer, culture and emotional states, role of religion, and magic in healing.

**ANTH 3601. Foundations of Anthropological Theory. (3)** Prerequisite(s): ANTH 1501; ANTH 2121 or ANTH 2161; ANTH 2141 or ANTH 2151; ANTH 2171; Anthropology major, minor, or permission of instructor; and Junior standing or permission of instructor. History of anthropological theory; the anthropological perspective in the social sciences; current theoretical and methodological issues in anthropology; presenting anthropology through writing and speaking. Students may attempt this course a maximum of three times, including any grade of D, F, or W.

**ANTH 3895. Directed Individual Study. (1 to 4)** Prerequisite(s): ANTH 1501 and permission of department. Supervised investigation of specialized topics in anthropology. *May be repeated for credit; up to 6 credits may be applied to the major.*

**ANTH 4020. Topics in Cultural Anthropology. (3)** Prerequisite(s): ANTH 1501. Specialized topics in Cultural Anthropology. Examples include: Durkheim and Marx; The Comparative Study of Peasant Rebellion. *May be repeated for credit with change of topic.*

**ANTH 4040. Topics in Biological Anthropology. (3)** Prerequisite(s): ANTH 2141 or permission of instructor. Specialized topics in Biological Anthropology. Examples include: Evolutionary Ecology of Hominoidea; Comparative Primate Family Structure. *May be repeated for credit with change of topic.*

**ANTH 4050. Topics in Archaeology. (3)** Prerequisite(s): ANTH 2151 or permission of instructor. Specialized topics in Archaeology. Examples include: Ceramic Analysis; Bioarchaeology and Demography. *May be repeated for credit with change of topic.*

**ANTH 4090. Topics in Anthropology. (1 to 3)** Prerequisite(s): ANTH 1501 or permission of instructor. Examination of specialized topics in anthropology. Examples: Anthropology and Globalism; Race, Culture, and Society. *May be repeated for credit with change of topic.*

**ANTH 4120. Intercultural Communications. (3)** Prerequisite(s): ANTH 1501 or permission of instructor. Learning to cope with cultural differences; contrasting value systems; cross-cultural and communication styles; nonverbal communication; cultural relativity; culture and perception; ethnocentrism; cultural shock.

**ANTH 4122. Ethnographic Methods. (3)** Prerequisite(s): At least 6 hours in ANTH courses or permission of instructor. This course provides students with a basic mastery of the key methods used in cultural anthropological research.

**ANTH 4131. Culture, Pregnancy, and Birth. (3)** Cross-listed Course(s): WGST 4131. Explores how culture shapes the experience and practice of pregnancy and birth. Topics include: the birthing experience, midwifery, infertility, new reproductive technologies, and surrogate motherhood.

**ANTH 4141. Forensic Anthropology. (3)** Prerequisite(s): ANTH 3141 or permission of instructor. Basic comparative human anatomy and biological anthropology applied to modern problems in the identification of human remains. Issues in recovery, identification, and interpretation of human remains from archaeological, criminal, and disaster investigations. Legal issues about human remains.

**ANTH 4453. Field Project in Archaeology. (1 to 4)** Prerequisite(s): ANTH 1501 or ANTH 2151, and permission of instructor. Practical experience in archaeological techniques. Students will participate in field research on an historic or prehistoric archaeological site. Research may include field reconnaissance, excavation, mapping, systematic description and analysis of cultural material, and/or other techniques appropriate to the site and research problem. *May be repeated for credit with change of project; up to 6 credit hours may be applied toward the Anthropology major.*

**ANTH 4480. Internship in Anthropology. (3)** Prerequisite(s): Permission of department. Research and/or in-service training experience in a cooperating community organization, based upon a contractual agreement among the student, department, and community organization. *May be repeated for credit up to 6 credit hours. Graded on a Pass/No Credit basis.*

**ANTH 4482. Teaching Internship in Anthropology. (3)** Prerequisite(s): Junior or Senior standing, and permission of department. Teaching assistant experience in introductory anthropology. Includes conducting review sessions, lecturing, assisting faculty member with exams, and related activities. *May be repeated for credit up to 6 credit hours. Graded on a Pass/No Credit basis.*

**ANTH 4601. Seminar in General Anthropology. (3)** Prerequisite(s): ANTH 3601 with a grade of C or above; Senior standing; Anthropology major; at least 24 credit hours of ANTH courses completed; permission of department; and, when taken for honors credit, approval of a proposal through the Honors College Application to Candidacy process the semester prior to taking the course. Synthesis and integration of subfields of anthropology with emphasis on accomplishing original research, and written and oral presentation in anthropology.

**ANTH 4611. Senior Seminar in Applied Anthropology. (3) (SL)** Prerequisite(s): ANTH 2171 or permission of instructor; ANTH 3601; and ANTH 4122, ANTH 4453, or other social science methods course that meets the requirement for the major. The capstone course for Applied Anthropology majors. In an effort to position students for an applied career, this course is divided into two main sections. First, students participate in a service-learning project that provides experience working as an applied anthropologist on a research project. Second, students complete several professionalization tasks, such as resume writing and interviewing skills, that help them communicate their experiences and skills.

**ANTH 4615. Readings in Middle East Ethnography. (3)** Seminar exploring both historically significant and recent ethnographies on selected topics. Examples include Israel/Palestine, Women in the Middle East, and Tribe, State, and Nation in the Middle East. *May be repeated for credit with change of topic.*

**ANTH 4620. Language, Culture, and Thought. (3)** Pre- or Corequisite(s): One prior linguistics or cultural anthropology course. Cross-listed Course(s): ANTH 5620. Can you think without language? Can you talk without thinking? This course delves into these questions, combining linguistics, psychology, anthropology, and digital studies. Students begin with an investigation of semiotic relativity, or how language shapes human cognition, debating the differences between human and non-human communication and cognition, including animal communication and AI. Students then investigate the effects of language in particular on thought—including specific syntactic and semantic forms. Students also examine discursive relativity, or the relationship between cognition and language in use, investigating verbal art, pragmatics and political speech, and changes in writing forms—including literacy, the internet, and interactions with AI. Scholars debate the degree to which these technological developments change, and have changed, thought patterns. Students will investigate these debates and write a final research paper.

**ANTH 4622. Readings in the Anthropology of Religion. (3)** Seminar exploring both historically significant and recent ethnographies of religion. Examples include Islam, Religion and the Senses in the Muslim World, Shamanism, Comparative Ethnography of Religion. *May be repeated for credit with change of topic.*

**ANTH 4625. Anthropological Approaches to AI. (3)** Cross-listed Course(s): ANTH 5625. Explores the cultural and structural implications of "AI" technology, starting with definitions of what these tools are, are not, and what we are being told they are. Through readings and discussion, students will explore "AI" interventions into health care, government, the creative arts, and education, among other realms. The intent is to acquire a vocabulary for critical engagement with "AI" tools and discourses alike.

**ANTH 4630. Spatial Analysis and Anthropology. (3)** Cross-listed Course(s): ANTH 5630. An introduction to Artificial Intelligence, Machine Learning, Geographic Information Systems, Spatial Analysis, and mapping from an explicitly anthropological perspective. Integrating perspectives from Cultural Ecology and Settlement Ecology this course investigates the cultural dimensions of spatial information, while relying on data from Latin America. This course provides a foundation for a future second course offering focused on advanced primary analysis through GIS, such as remote sensing, with intensive AI applications. Students will review numerous spatial theories underlying anthropology and GIS analysis in anthropology, as well as surveying the tools and themes used to collect, describe, model, and analyze data.

**ANTH 4701. Honors Research in Anthropology. (3)** Prerequisite(s): Acceptance into the departmental honors program and permission of department. Independent Honors project; proposal, literature review, and research for project to be completed in ANTH 4601. *Graded on a Pass/No Credit basis.*

**ANTH 4702. Honors Writing in Anthropology. (3)** Prerequisite(s): ANTH 4701. Students analyze their Honors thesis research data and write up their results in a formal thesis document. They work together to provide peer feedback during the writing process and help each other prepare for a final oral presentation. *Graded on a Pass/No Credit basis.*

# Applied Energy and Electromechanical Engineering (AEEE)

**AEEE 4000. Special Topics. (1 to 3)** Cross-listed Course(s): ENER 5000. Builds upon and synthesizes the knowledge that the students have gained from their curriculum. The specific topics covered in each separate offering of the course will broaden and deepen students' knowledge in general areas related to Applied Energy and Electromechanical Engineering.. *May be repeated for credit.*

**AEEE 4010. Special Topics in Energy. (1 to 3)** Builds upon and synthesizes the knowledge that the students have gained from their curriculum. The specific topics covered in each separate offering of the course will broaden and deepen students' knowledge in areas of Energy Engineering. *May be repeated for credit with change of topic.*

**AEEE 4020. Special Topics in Electromechanical. (1 to 3)** Builds upon and synthesizes the knowledge that the students have gained from their curriculum. The specific topics covered in each separate offering of the course will broaden and deepen students' knowledge in areas of Electromechanical Engineering. *May be repeated for credit with change of topic.*

**AEEE 4140. Energy Management. (3)** Prerequisite(s): ETEM 3231 or ETME 3250 or permission of Program Director; A working knowledge of engineering economics and thermodynamics, and Engineering major or minor. Study of the understanding and implementation of energy management techniques. Emphasis is on energy efficiency applications in homes, businesses, large buildings and industry. Topics include: energy auditing, energy management, energy cost analysis, energy & electric rate structures, lighting, HVAC systems, motors & drivers, boilers and steam systems, cogeneration, commercial and industrial applications and alternative energy sources.

**AEEE 4250. Analysis of Renewable Energy Systems. (3)** Prerequisite(s): ETEM 3231 or ETME 2222 or permission of Program Director; Engineering major or minor. System analysis of renewable energy systems: well-to-wheels analysis, lifecycle energy and emissions, total cost, skill sets, methodologies and tool kits needed to analyze various technologies on a consistent basis for a given application. Solar photovoltaics, wind energy, and fuel cell technologies are covered.

**AEEE 4275. Building Environmental Systems. (3)** Prerequisite(s): ETEM 3131 and ETEM 3231; or ETME 3250 or permission of Program Director and Engineering major or minor. Functions and operating characteristics of the major components of refrigerating machines, heat pumps, boilers, furnaces, solar collectors, heat exchangers, fans and pumps. Emphasis on sizing, economics and performance characteristics. Includes coverage of psychometric principles and fan and pump laws.

**AEEE 4290. Advanced Instrumentation and Controls. (3)** Prerequisite(s): ETEM 3131 or ETME 2222 or permission of Program Director, and Engineering major or minor. Methodologies for measurement, analysis, and control of physical components of various electromechanical systems as well as conventional and renewable energy conversion and storage systems.

# Arabic (ARBC)

**ARBC 1201. Elementary Arabic I. (3)** For students with limited or no previous experience in Arabic. First course in a two-course sequence to develop competence in culture, speaking and writing, listening and reading comprehension in modern standard Arabic.

**ARBC 1202. Elementary Arabic II. (3)** Prerequisite(s): ARBC 1201 or equivalent. Second course in a two-course sequence to develop competence in culture, speaking and writing, listening and reading comprehension in modern standard Arabic.

**ARBC 1502. Global Arts/Humanities: Modern Arab Culture. (3)** This Global Theme course uses the methods and insights of the social sciences to explore the central question of what it means to be a citizen of the world. Through the study of one or more different peoples, societies or cultures across the globe, students will be able to better understand themselves as part of a complex, interconnected world. ARBC 1502 provides students with an intricate account of how "identity" is conceived and narrated in contemporary Arab cultures. It features a range of English-translated works by prominent scholars, Arab literary figures, and filmmakers that explore several critical narratives surrounding the main theme of this course, i.e., identity, citizenship, and belonging. Special attention will be given to history, family, gender

relations, and social change to discuss the main theme previously mentioned. Taught in English.

**ARBC 1512. Local Arts/Humanities: Islamic Culture in the United States. (3)** This Local Theme course uses the methods and insights of the arts and humanities to explore the central question of what it means to be a member of a "local" community. Through the study of the experiences of different peoples, societies, cultural traditions, and modes of expression in communities at the city, regional, or national level, students will be able to better understand the complexity and diversity of the society in which we live. Students are introduced to critical studies of language through a broad engagement with the contributions and presence of Arab and Islamic cultures in the United States. Course materials may draw widely from language, literature, history, linguistics, film, pop culture, music, cuisine, media, and the arts. Taught in English.

**ARBC 2201. Intermediate Arabic I. (3)** Prerequisite(s): ARBC 1202 and ARBC 1202L, or permission of department. Continued training in grammar. Intensive practice in reading, writing, and speaking.

**ARBC 2202. Intermediate Arabic II. (3)** Prerequisite(s): ARBC 2201 or permission of department. Builds on skills acquired in the first semester intermediate level. Introduced advanced grammatical concepts.

**ARBC 3050. Topics in Arabic Language and Culture. (3)** Study of a particular facet of the Arabic language, culture, or literature. *May be repeated for credit with change of topic.*

**ARBC 3051. Topics in Arabic Language and Culture. (1 to 3)** Study of a particular facet of the Arabic language, culture, or literature. *May be repeated for credit with change of topic.*

**ARBC 3201. Advanced Arabic I. (3)** Prerequisite(s): ARBC 2202 or permission of department. Review of Arabic grammar and guided conversation on prepared topics. Emphasis on spoken Arabic.

**ARBC 3202. Advanced Arabic II. (3)** Prerequisite(s): ARBC 3201 or permission of department. Review of Arabic grammar and guided compositions on prepared topics. Emphasis on vocabulary, idiomatic expressions, and stylistics.

**ARBC 3203. Advanced Arabic III. (3)** Prerequisite(s): ARBC 3201 or permission of department. Advanced Arabic grammar and conversation on prepared topics. Emphasis on vocabulary, idiomatic expressions, and stylistics.

**ARBC 3210. Introduction to Modern Arab Culture. (3)** A survey of the contemporary Arab culture in the Middle East and North Africa as reflected in history, language, literature, the arts, and social institutions. Special attention is given to family, gender relations, the role of social change, Arab art, and the Arab experience in the U.S. The course material is explored through scholarly research, media, student presentations, and discussions to promote analytical, discussion writing, and presentation skills. The class is taught in English.

**ARBC 3211. Understanding Millennials of the Middle East through Literature, Culture, and Mass Media. (3)** A cross-disciplinary study of Middle East diversity and change through a focus on its millennials who provide especially important insights into Middle Eastern societies and the transformations they are undergoing. Examines the changing historical concepts of youth (in the Middle East and worldwide), ethnic identifications, the role of youth in modern political movements, changing notions of gender and sexuality (with generational as well as individual differences), and various religious approaches (views toward and identification with organized religions, attitudes toward other faiths).

**ARBC 3225. Short-Term Abroad. (3)** Prerequisite(s): Permission of instructor. Faculty-led short-term study abroad experience offered during Spring Break.

# Architecture (ARCH)

**ARCH 1101. Architectural Design Studio I. (6)** Prerequisite(s): Must be enrolled in the Architecture Major (ARCH). Corequisite(s): ARCH 1201. This is the first course in the studio sequence of the Core Program. Themes, methods, and objectives are coordinated between the studios in the Core to culminate after four studios in a solid understanding of fundamental issues, knowledge, and skills related to the practice, study, and understanding of architecture.

**ARCH 1102. Architectural Design Studio II. (6)** Prerequisite(s): ARCH 1101, ARCH 1201. Corequisite(s): ARCH 1202. This is the second course in the studio sequence of the Core Program. Themes, methods, and objectives are coordinated between the studios in the Core to culminate after four studios in a solid understanding of fundamental issues, knowledge, and skills related to the practice, study, and understanding of architecture.

**ARCH 1201. Modes of Communication. (3)** Prerequisite(s): Must be enrolled in the Architecture Major (ARCH). Corequisite(s): ARCH 1101. Introduces undergraduate architecture students to the value and importance of verbal and media-related communication in the discipline. The primary theme of the course is the integral relationship between three types of language especially important to a career in architecture: description, analysis, and criticism. The course asks students to consider similarities and differences between written and oral communication, and how visual media, especially video, augment how architects may communicate their ideas and proposals.

**ARCH 1202. Computational Methods. (3)** Prerequisite(s): ARCH 1101, ARCH 1201, Math Placement Level 3 or MATH 1100 or MATH 1101. Corequisite(s): ARCH 1102. Introduction to the potential of computation as a way of thinking about design. It covers parametricism, computational design tools, and theories of computation as they relate to design and architecture.

**ARCH 1502. Global Arts/Humanities: Global Architecture, Culture, and Environment. (3)** All Global Theme courses explore the central, unifying question of what it means to be a citizen of the world. Through the study of one or more different peoples, societies or cultures across the globe, students will be able to better understand themselves as part of a complex, interconnected world. ARCH 1502 examines architecture as a visual practice, looking at buildings not as inert objects, but as weighty visual constructs that hold cultural and environmental meaning for individuals and societies. ARCH 1502 allows students to develop an interdisciplinary perspective on the role and influence of architecture in

society and the philosophical ideas that give buildings and places meaning.

**ARCH 2101. Architectural Design Studio III. (6)** Prerequisite(s): ARCH 1102 and ARCH 1202. Corequisite(s): ARCH 4201 and ARCH 4301. This is the third course in the studio sequence of the Core Program. Themes, methods, and objectives are coordinated between the studios in the Core to culminate after four studios in a solid understanding of fundamental issues, knowledge, and skills related to the practice, study, and understanding of architecture.

**ARCH 2102. Architectural Design Studio IV. (6)** Prerequisite(s): ARCH 2101, ARCH 4201, ARCH 4301. Corequisite(s): ARCH 4202, ARCH 4302. This is the fourth course in the studio sequence of the Core Program. Themes, methods, and objectives are coordinated between the studios in the Core to culminate after four studios in a solid understanding of fundamental issues, knowledge, and skills related to the practice, study, and understanding of architecture.

**ARCH 3100. Intermediate Design Studio. (6)** Prerequisite(s): ARCH 2102; Departmental approval. This course is designed to provide an additional and more advanced design studio for students pursuing the B.A. in Architecture with the Architectural Studies Concentration, so as to better prepare them for graduate studies in architecture. This studio builds upon the lessons learned in ARCH 2102 and introduces students to the basic principles of the integration of systems into building design. The design project is located on a real site in the Charlotte area, and its primary objective is to train students to negotiate multiple scales of the design process: site context; occupancy constraints; material constraints; building systems; environmental conditions; and aesthetic considerations.

**ARCH 3101. Architectural Design Studio V. (6)** Prerequisite(s): ARCH 2102. Corequisite(s): ARCH 1202 and ARCH 4303. This course applies the lessons of the Core studio to more advanced and comprehensive architectural conditions. Students confront new building technologies and emerging design methodologies.

**ARCH 3102. Architectural Design Studio VI. (6)** Prerequisite(s): ARCH 3101, ARCH 4303. Corequisite(s): ARCH 4303. This course applies the lessons of the Core studios to more advanced and comprehensive architectural conditions. Students confront new building technologies and emerging design methodologies.

**ARCH 4060. History/Theory Topics. (3)** Prerequisite(s): ARCH 4202 or permission of instructor. Study of topical areas of history and theory of architecture. This course is required for Architecture majors to complement the required survey courses (ARCH 4201, ARCH 4202, and ARCH 4203) to develop in-depth research, writing, and presentation skills. *May be repeated for credit with change of topic.*

**ARCH 4050. Architecture Topics. (3)** Concentrated, in-depth study of selected topic. Topics vary according to faculty expertise and often include contemporary theoretical, social, technological, and design issues. *May be repeated for credit with change of topic.*

**ARCH 4070. Computational Topics. (3)** Prerequisite(s): ARCH 1202 or permission of instructor. Study of topical areas of digital and computational studies. The objective of this course is to provide instruction in advanced digital tools, digital fabrication, advanced visualization techniques, scripting, and/or parametric and building information modeling tools. *May be repeated for credit with change of topic.*

**ARCH 4101. Architectural Design Studio VII: Advanced Building Design. (6)** Prerequisite(s): ARCH 3102. This studio conducts an integrated building design project that synthesizes methods and objectives covered in previous studios.

**ARCH 4102. Architectural Design Studio VIII: Topical. (6)** Prerequisite(s): ARCH 4101. Various studio topics are offered with different emphasis and subject concentration to allow in-depth studio experiences in particular areas of study.

**ARCH 4201. Architectural History I: Prehistory-1750. (3)** Global survey of architecture and urbanism from prehistory to 1750. Explores key examples of buildings and cities as well as the theoretical, environmental, political, economic, technological, and cultural contexts in which they were built. Provides a general knowledge of the formal, spatial and ornamental characteristics that distinguish the built environment of distinct historic and traditional building cultures.

**ARCH 4202. Architectural History II: 1750-Present. (3)** Prerequisite(s): ARCH 4201 or permission of instructor. Global survey of architecture and urbanism from 1750 to the present. Explores key architectural and urban ideas, designers, buildings, and urban projects as well as how they were shaped by their environmental, political, economic, technological, and cultural context.

**ARCH 4203. Architectural History III: Survey of Contemporary Theory (1950-Present). (3)** Prerequisite(s): ARCH 4202 or permission of instructor. Survey of architectural theory from 1950 to the present. Focuses on the key ideas, texts, debates, and discourse that have informed architectural practice in the late twentieth and early twenty-first centuries.

**ARCH 4206. Professional Practice. (3)** Learning objectives include an understanding of the practice of architecture today, its responsibilities and procedures, and emerging alternative forms of practice and roles of the architect.

**ARCH 4301. Material and Assembly Principles. (3)** Introduces quantitative and qualitative characteristics of architectural materials, systems, and processes. Also introduces the physical properties of materials relevant to their application in construction, assembly, and detail systems. Topics include: masonry, concrete, wood, steel, glass, cladding, roofing and flooring materials, and their assemblies.

**ARCH 4302. Environmental Systems Principles. (3)** Prerequisite(s): ARCH 4301 or permission of instructor. Introduces qualitative and quantitative analytical methods commonly used to assess the impact of environmental forces on occupant thermal and luminous comfort, energy performance, and regional sustainability. Also introduces the interplay between climatic events, building use, and the architectural variables that inform the appropriate application of building systems technology. Topics include: building envelope performance, and the introduction of passive and mechanical systems for heating, cooling, illuminating, and ventilating buildings.

**ARCH 4303. Structural Principles. (3)** Prerequisite(s): ARCH 4301, ARCH 4302, PHYS 1101, and PHYS 1101L. Introduces issues relevant to the fundamentals of structures including statics, strength and stability of materials. Also introduces structural concepts, systems, and the tracing of structural loads through basic principles, physical modeling, and theoretical and analytical methods. Topics include: the interrelationship between strain, stress, and stability, as well as the implications of tension, compression, shear, torsion, and bending.

**ARCH 4304. Structural Systems. (3)** Prerequisite(s): ARCH 4301 and ARCH 4303. Introduces specific structural applications of wood, steel, concrete, and masonry systems commonly used in small-scale commercial/institutional buildings. Also introduces design of beams, columns, walls, joinery, and connections appropriate to each material type through theoretical, analytical, and computer simulation methods.

**ARCH 4305. Building Systems Integration. (3)** Prerequisite(s): ARCH 4304 and ARCH 4302. Introduces a set of advanced issues related to the comprehensive, systematic integration of building technology systems commonly used in large-scale buildings through case study, analytical, and simulation methods. Topics address the resolution of the building structure, materials, environmental systems, mechanical systems, electrical systems, life safety, building water supply and waste, and conveying systems in building design.

**ARCH 4600. Architectural History and Criticism Methodologies. (3)** Prerequisite(s): ARCH 4202 or permission of instructor. Explores approaches to the history of architecture from its emergence as a discipline in the 19th century through its expansion in the 20th and 21st centuries to encompass more varied perspectives. Historical-based approaches to criticism of the contemporary built environment are also explored. Required course for Minor in Architectural History and Criticism.

**ARCH 4601. Rome Prep. (1)** Corequisite(s): ARCH 4101. An essential introduction to the School of Architecture Rome Program. It prepares students to optimize the full extent of their Spring semester experience in Italy. Students planning to participate in the Rome program should enroll in this course the semester prior.

**ARCH 4607. Urban Form. (3)** Prerequisite(s): Enrollment in Bachelor of Architecture degree program. An inquiry into critical matters concerning the contemporary city, this course runs parallel to and resonates with an urban building design studio based on the Center City Campus. Topics focus on the social, cultural, political, historical, and theoretical dimensions of the city.

**ARCH 4613. Introduction to Heritage Studies. (3)** Prerequisite(s): Architectural History and Heritage, Minor. A theoretical exploration of heritage from a variety of disciplinary and methodological perspectives with a focus on key contemporary issues and themes in the field. Critical, interdisciplinary approaches to heritage emerged in the late 20th century and conceptualize heritage as present cultural production that relates to the past to promote or establish value, identity, and development for the present and future. Critical heritage Studies seeks to engage with alternative intellectual and methodological frameworks to re-conceptualize heritage values and practices.

**ARCH 4890. Directed Independent Study. (1 to 6)** Prerequisite(s): Architecture major and permission of chair of instruction. Designed to allow students to pursue faculty-directed independent study topics not provided by other college offerings. *May be repeated for credit with permission of college.*

# Art: Academic & Departmental Art (ARTA)

**ARTA 1402. Gallery Internship. (3)** Participation in all phases of exhibition selection, preparation, and presentation in four campus galleries under supervision of campus galleries coordinator. *May be repeated for credit one time.*

**ARTA 1502. Global Arts/Humanities: Art in a Global Context. (3)** All Global Theme courses explore the central, unifying question of what it means to be a citizen of the world. Through the study of one or more different peoples, societies or cultures across the globe, students will be able to better understand themselves as part of a complex, interconnected world. ARTA 1502 provides an interdisciplinary introduction to the visual arts in a global context with analysis of visual culture in a variety of media and genres from different historical periods and geographic locations. This course examines the function, meaning, and politics of individual works of art and art movements. It also addresses the role of art as a site for the articulation of value systems, including those of gender, class, and race. *May not be taken for credit and for a grade if credit has been received for LBST 1105.*

**ARTA 1512. Local Arts/Humanities: Arts and Community. (3)** All Local Theme courses explore the central, unifying question of what it means to be a member of the "local" community in which we live. Through the study of the experiences of different peoples, cultures, and communities in our city, our region, or our nation, students will be able to better understand themselves in the context of the complex and diverse society in which we live. We examine the social, cultural, and political contexts that inform the conception, production, and reception of art and design in local environments.

**ARTA 2800. Directed Studies in Art. (1 to 3)** Prerequisite(s): Art major; permission of instructor and department. Directed individual research in a particular artistic field of interest not otherwise offered. *May be repeated for credit.*

**ARTA 3000. Topics in Art. (1 to 3)** Prerequisite(s): Art major or Graphic Design major. Special topic in art. *May be repeated for credit with change of topic.*

**ARTA 3201. B.F.A. Portfolio Review. (1)** Prerequisite(s): Art major, minimum 2.0 GPA, ARTB 1201, ARTB 1202, ARTB 1203, ARTB 1204, and ARTB 1206 *(Note: Art Education concentration requirements are listed under the section for the B.F.A. in Art with Concentration in Art Education program).* Students compile a portfolio of work and written information to progress into upper-level course requirements in intended concentration in the B.F.A. in Art. Those denied to an intended concentration may be reviewed by other concentrations for progression If denied by all concentrations, students must move to B.A. in Art status. Students must pass course by 5th semester enrolled in the department or must move to B.A. in Art status. *Graded on a Pass/No Credit basis.*

**ARTA 3400. Internship in the Arts. (1 to 3)** Prerequisite(s): Art major; permission of sponsor instructor and department. Opportunity for

students to observe, examine, and participate in the creative dynamics and procedural operations of an art organization, arts related business, professional artist's studio, or expert craftsworker. Sponsor supervised. A three credit experience requires 120 contact hours per semester. Repeat for credit with different sponsors. *Graded on a Pass/No Credit basis.*

**ARTA 3800. Independent Study in Art. (1 to 3)** Prerequisite(s): Art major; permission of instructor and department. Supervised individual research of artistic problems with appropriate documentation of the results. *May be repeated for credit.*

**ARTA 4600. Senior Seminar. (3)** Prerequisite(s): WRDS 1103 or WRDS 1104 with a grade of C or above; Senior standing; and Art major in either of final two semesters of art program. Seminar and intensive writing experience explores a variety of general issues in contemporary art with an emphasis on career questions faced by graduating seniors.

**ARTA 4901. Senior Thesis I: Creative Research. (3)** Prerequisite(s): Senior standing, Art major, ARTA 3201, and:

- Digital: ARTM 3101 and ARTM 3102
- Painting: ARTD 2139; and two of the following: ARTP 3131, ARTP 3132, ARTP 3161
- Photography: ARTT 3190 and ARTT 3191
- Print Media: ARTB 1201, ARTB 1203, ARTB 1206, ARTR 2161 or ARTR 2162
- 3D: any 3000-level course in ARTC (recommended ARTC 3273); ARTF (recommended ARTF 3353), or ARTZ (recommended ARTZ 3306 or ARTZ 3344)

Advanced Studio course where students research, conceptualize, and create a body of work. Students are self-directed in the development of source ideas, content, and use of materials. They refine their personal expression, and their ability to define an artistic problem or theme. Students are expected to conduct theoretical research and contextualize their artistic production. In this often interdisciplinary environment, students engage in group critiques and sometimes interact with visiting artists. Six contact hours.

**ARTA 4902. Senior Thesis II: Advanced Creative Practice. (3)** Prerequisite(s): Senior standing, Art major, ARTA 3201, and ARTA 4901. Advanced, individual project-based studio where students master the ability to work on a consistent body of work, supported by theoretical enquiry, culminating in Senior Exhibition (BFA Thesis Show). Six contact hours. *May be repeated for credit with permission of instructor.*

## Art: Basic Foundation Studios (ARTB)

**ARTB 1201. 2D Design. (3)** Prerequisite(s): Art or Graphic Design major. Introductory studio exploring basic concepts and techniques of visual organization in two dimensions. Includes study of the formal elements and principals of composition and the interrelationship between form and content. Six contact hours.

**ARTB 1202. 3D Design. (3)** Prerequisite(s): Art or Graphic Design major. A beginning studio emphasizing experimentation with design and materials as related to the exploration of form and space in three dimensions. Six contact hours.

**ARTB 1203. Drawing I. (3)** Prerequisite(s): Art or Graphic Design major. Introduction to drawing involving skills and theory including perspective, proportion, rendering, and expression in a variety of media and techniques. Priority for majors. Six contact hours.

**ARTB 1204. Digital Foundations. (3)** Prerequisite(s): Art or Graphic Design major. Introduction to digital technologies, content production in current software, and best digital practices for emerging artists. Six contact hours.

**ARTB 1206. First Year Seminar. (3)** Prerequisite(s): Art major, Graphic Design major, or Art History major. Introduction to professional practice, entrepreneurship, and conceptual development for artists, designers, and art historians. There will be an overview of available Department, College, University, and Community Resources. In-class discussions, assignments, presentations, guest speakers and/or other opportunities will support student learning. The course is predicated on outcomes associated with the university's Prospect For Success initiative.

## Art: Ceramics (ARTC)

**ARTC 2171. Ceramics Handbuilding. (3)** Pre- or Corequisite(s): Art or Graphic Design major; ARTB 1201; ARTB 1202; ARTB 1203; ARTB 1204; and ARTB 1206 or ARTG 2180. Introduction to handbuilt forming methods, concept development, ceramic materials, and firing procedures. Six contact hours.

**ARTC 2172. Ceramics Wheel I. (3)** Pre- or Corequisite(s): Art major or Graphic Design major; ARTB 1201; ARTB 1202; ARTB 1203; ARTB 1204; and ARTB 1206 or ARTG 2180. Introduction to wheel forming methods and emphasis on skill development, design, glaze application, utilitarian and sculptural concepts, and basic high-fire techniques. Six contact hours.

**ARTC 3071. Topics in Ceramics. (3)** Prerequisite(s): Art major or Graphic Design major; ARTC 2171 or ARTC 2172. Special topics in ceramics. *May be repeated for credit with change of topic.*

**ARTC 3171. Ceramic Sculpture. (3)** Prerequisite(s): Art or Graphic Design major, and ARTC 2171. Intermediate studio emphasizing sculptural techniques, concepts, and design. Six contact hours.

**ARTC 3172. Ceramics Wheel II. (3)** Prerequisite(s): Art or Graphic Design major, and ARTC 2172. Continuation of ARTC 2172 emphasizing development of skills, materials, high temperature firing techniques, design concepts related to utility and sculpture. Six contact hours.

**ARTC 3273. Intermediate Ceramics. (3)** Prerequisite(s): Art or Graphic Design major; and ARTC 3171 or ARTC 3172. Advanced ceramic studio of higher level skills, concepts, and aesthetics. Six contact hours. *May be repeated for credit one time.*

**ARTC 3274. Advanced Ceramics. (3)** Prerequisite(s): Art major, ARTC 3273, and ARTA 3201; or Graphic Design major. Advanced ceramic studio of higher level skills, concepts, and aesthetics with particular emphasis on personal expression and development of an individual clay portfolio. Six contact hours. *May be repeated for credit one time.*

# Art: Drawing (ARTD)

**ARTD 2134. Figure Drawing I. (3)** Prerequisite(s): Art or Graphic Design major. Prerequisite(s): ARTB 1203. A studio course that explores strategies for drawing the human form in terms of anatomy, proportions, expression, movement, and composition with a variety of media and techniques. Six contact hours.

**ARTD 2139. Drawing II. (3)** Pre- or Corequisite(s): Art or Graphic Design major; ARTB 1201; ARTB 1202; ARTB 1203; ARTB 1204; and ARTB 1206 or ARTG 2180. Further development of perceptual skills with emphasis on conceptual issues; exploration of subject matter, meaning and content, and thematic development in a variety of black and white and color materials. Six contact hours.

**ARTD 3134. Figure and Anatomy. (3)** Prerequisite(s): Art or Graphic Design major, and ARTD 2134. Emphasizes the study of anatomy as it pertains to drawing. Complex drawing problems in a variety of media. Six contact hours. *May be repeated for credit two times.*

# Art Education (ARTE)

**ARTE 2100. Artists as Teachers. (3)** Prerequisite(s): Art major; and ARTB 1201 or ARTB 1203 with grade of C or above. An introduction to the role of the visual arts in learning and teaching in a variety of settings. Individual studio practices are translated into teaching expertise to develop and create meaningful, engaged, and relevant curriculum. Experiences in using visual arts to transform individuals and communities are incorporated. A clinical experience of a minimum of 10 hours at an assigned school is required. A minimum grade of B or above in this course is required for admittance to the Major in Art with a Concentration in Art Education.

**ARTE 2121. Integrating Art Across the Curriculum. (3)** Prerequisite(s): Pre-Elementary (PELM), Elementary Education (ELED), or Special Education and Elementary Education (PSPE, SPEL) major. Exploration of the role of visual arts in the holistic development of children. Provides models for meaningful integrating content and skills in the visual arts with academic subjects. The course is designed to inform Elementary Education majors about the fundamentals of aesthetics, art making, and art pedagogy. Students experiment with various studio materials and methods used to teach diverse learners in the elementary classroom. Four contact hours.

**ARTE 3121. Elementary Art Methods. (3)** Prerequisite(s): Art major with Art Education concentration and admission to Teacher Education. Analysis of learning themes as related to growth and development in the visual arts; organization of tools, media, and materials appropriate for the elementary level; curriculum design in planning art units and lessons, evaluation, and motivation techniques. A practicum of a minimum of twenty hours in an elementary setting is required, where the student assists the teacher, and on at least two occasions experiences teaching. Five contact hours.

**ARTE 3124. Investigating Global Art. (3)** Prerequisite(s): Art major, Art History major, and Graphic Design major only. Examines social theory important to informing effective art theory and practice. Guidance and practice in research, identification, and critical examination of important moments in visual culture / art history for incorporation into all aspects of art teaching. Uses electronic media, discursive, and studio methods to synthesize understanding and mastery of knowledge and skills related to course content.

**ARTE 4021. Topics in Art Education. (1 to 3)** Prerequisite(s): Art major. Special topics in art education. *May be repeated for credit with change of topic.*

**ARTE 4122. Secondary Art Methods. (3)** Prerequisite(s): Art major with Art Education concentration; admission to Teacher Education; and ARTE 3121 with grade of C or above. Analysis of learning themes as related to growth and development in the visual arts; organization of tools, media, and materials appropriate for the secondary level; curriculum design in planning art units and lessons, evaluation, and motivation techniques. A practicum of a minimum of twenty hours in a secondary setting is required, where the student assists the teacher, and on at least two occasions experiences teaching. Five contact hours.

**ARTE 4125. Creativity and Mindfulness. (3)** Prerequisite(s): Art major. Based on research in creativity, affective neuroscience, and mindfulness, this course aims to empower the individual creative process through the use of mindfulness and expressive arts. Course provides an introduction to practices that strengthen cognitive flexibility, overcome self-judgment, enhance creativity, and deepen mindful awareness. Students will learn how to develop skills to reduce stress and cultivate resilience and well-being, to strengthen the holistic development of artists and teachers.

**ARTE 4466. Art Education Year-Long Internship. (0)** Prerequisite(s): Art major. Pre- or Corequisite(s): ARTE 3121 or ARTE 4122. All teacher candidates participate in the year-long internship (YLI) during their final year of the program. During the first semester of the YLI, candidates spend 35 clinical hours spread over 8-15 weeks in an assigned classroom with the YLI Cooperating Educator (CE) while also completing coursework.

**ARTE 4467. Student Teaching in Art. (12)** Prerequisite(s): Art major with Art Education concentration; completion of all required coursework at UNC Charlotte with grades of C or above; and admission to Teacher Education. A planned sequence of experiences in the student's area of specialization conducted in an approved school setting under the supervision and coordination of a site coordinator and clinical educator. During student teaching, students must demonstrate the competencies and dispositions identified for their specific teaching field in an appropriate grade level setting. Students are assigned 15 weeks in a school setting. Includes seminars. Senior exhibit of candidate and student work is required. Participating students pay a course registration fee for edTPA portfolio assessment. *Graded on a Pass/No Credit basis.*

# Art: Fibers (ARTF)

**ARTF 2151. Fibers I. (3)** Pre- or Corequisite(s): Art or Graphic Design major; ARTB 1201; ARTB 1202; ARTB 1203; ARTB 1204; and ARTB 1206 or ARTG 2180. Introduction to the field of fibers, with exploration in constructed fibers, garment forms, and surface design, including weaving, dying, printing, and three dimensional construction techniques. Six contact hours.

**ARTF 3051. Topics in Fibers. (3)** Special topics in fibers. *May be repeated for credit with change of topic.*

**ARTF 3352. Fibers: Surface Design. (3)** Prerequisite(s): Art or Graphic Design major, and ARTF 2151. Exploration of surface design techniques including batik, silkscreen, block printing, and other dyeing processes combined with embellishment techniques such as embroidery and beadwork. Six contact hours. *May be repeated for credit two times.*

**ARTF 3353. Fibers: Constructed Textiles. (3)** Prerequisite(s): Art or Graphic Design major, and ARTF 2151. An exploration of traditional textile construction methods for application in the making of contemporary sculpture and installation works. Techniques covered may include weaving, twining, garment forms, plaiting, felt-making, knotting, coiling, crochet, etc. Six contact hours. *May be repeated for credit two times.*

# Art: Graphic Design (ARTG)

**ARTG 1201. 2D Design for Graphic Design. (3)** Prerequisite(s): Graphic Design majors only. Introductory studio exploring basic concepts and techniques of visual organization in two dimensions. Includes study of the formal elements and principles of composition and the interrelationship between form and content. Course projects build digital media skills. Six contact hours.

**ARTG 1203. Drawing for Graphic Design. (3)** Prerequisite(s): Graphic Design majors only. Introductory studio exploring basic concepts and techniques of visual organization in two dimensions. Includes study of the formal elements and principles of composition and the interrelationship between form and content. Course projects build digital media skills. Six contact hours.

**ARTG 1204. Digital Foundations for Graphic Design. (3)** Introduction to digital technologies, design production in current software, and best digital practices for designers. Six contact hours.

**ARTG 2180. Design Thinking. (3)** Prerequisite(s): ARTB 1201 or ARTG 1201 and ARTB 1203 or ARTG 1203; Graphic Design major. An introduction to the discipline and profession of graphic design. Focuses on the processes and methodologies that are unique to the design profession, as well as graphic design's history. Project assignments enable students to develop the visual problem-solving skills needed for pursuing further study in graphic design. Three contact hours.

**ARTG 2181. Graphic Design I. (3)** Prerequisite(s): ARTB 1201 or ARTG 1201 and ARTB 1203 or ARTG 1203; Graphic Design major. An introduction to graphic design and visual communications principles. Projects explore a range of tools, techniques, materials, and procedures. Emphasizes the importance of craft and concept development, as well as fundamentals of original image making, composition, type, and symbols. Six contact hours.

**ARTG 2182. Typography I. (3)** Prerequisite(s): ARTB 1201 or ARTG 1201 and ARTB 1203 or ARTG 1203; Graphic Design major. An introduction to the fundamental principles and function of type as a means to visually communicate ideas, including the history of typeface design and evolution typographic space and technologies. Hands-on projects incorporate a range of media and methodologies that develop digital typesetting skills and emphasize craft. Six contact hours.

**ARTG 3081. Topics in Graphic Design. (1 to 3)** Prerequisite(s): Graphic Design or Art major, and ARTG 2181. Special topics in graphic design. Six contact hours. *May be repeated for credit with change of topic.*

**ARTG 3183. Graphic Design II. (3)** Prerequisite(s): Graphic Design or Art major, ARTB 1202, ARTB 1204, ARTG 2180, ARTG 2181, ARTG 2182, and ARTM 2105. An intermediate-level course that focuses on visual communications problem solving, the computer as a creative tool, and professional designer/client relationships. Course projects build digital media and oral presentation skills while incorporating design strategies and processes to produce both print and screen-based solutions. Six contact hours.

**ARTG 3184. Typography II. (3)** Prerequisite(s): Graphic Design major, ARTB 1202, ARTB 1204, ARTG 2180, ARTG 2181, ARTG 2182, and ARTM 2105. An advanced investigation of typographic systems and the application of type using new forms of visual media. Course projects include developing complex grid structures, exploring the relationships between image and text, experimenting with the expressive qualities of type, and an introduction to type in motion and interactivity. Six contact hours.

**ARTG 3185. UX/UI Design Strategies. (3)** Prerequisite(s): Graphic Design major, ARTB 1202, ARTB 1204, ARTG 2180, ARTG 2181, ARTG 2182, and ARTM 2105. Intermediate-to-advanced study of digitally based design for websites and apps. Addresses techniques and strategies for developing engaging user interfaces and content delivery pathways for screen-based materials that meet up-to-date professional standards. Course projects place an emphasis on collaborative concept development, digital iteration, and investigation of user experiences. Six contact hours.

**ARTG 3186. Communications Design. (3)** Prerequisite(s): Graphic Design major, ARTB 1202, ARTB 1204, ARTG 2180, ARTG 2181, ARTG 2182, and ARTM 2105. Intermediate-to-advanced study of the role of graphic design in branding, advertising, and organizational communications. Project assignments address organizational identity materials as well as advertising and branding campaigns across print and screen-based media. The course develops students' research, process, design, presentation, and persuasion skills. Six contact hours.

**ARTG 3408. Graphic Design Internship. (3)** Prerequisite(s): Graphic Design major; ARTG 3183; ARTG 3184; and permission of instructor, department, and sponsor (consents required prior to registration). Students are placed in a professional setting for observation and supervised design-related duties. Students are required to provide written documentation of internship. This experience requires 120 contact hours per semester. *May be repeated for credit with change in sponsor. Graded on a Pass/No Credit basis.*

**ARTG 4180. Print Production. (3)** Prerequisite(s): Graphic Design major, ARTG 3183, ARTG 3184, and ARTG 3186. An advanced-level graphic design problem-solving class and an in-depth exploration of digital pre-press and commercial printing technologies. Projects focus on the relationships between message and media, alternative approaches to fabrication, and designing as a team. Topics include: project planning, paper selection, copywriting, and color proofing. Six contact hours.

**ARTG 4182. Design Research. (3)** Prerequisite(s): Graphic Design major, ARTG 3183, ARTG 3184, and ARTG 3186. In-depth, advanced study of research processes for graphic designers. Addresses techniques and strategies for incorporating traditional and creative research practices into the work of graphic design. Course projects place an emphasis on the role of ideation, iteration, informed speculation, data visualization, and persuasion in solving broad communication problems within civic and commercial contexts. Three contact hours.

**ARTG 4982. Graphic Design Projects. (3)** Prerequisite(s): Graphic Design major, ARTG 3185, ARTG 4180, and ARTG 4182. An advanced-level course requiring independent solving of issues pertaining to design and society. Project requirements also include the creation of new portfolio pieces and/or the revision of existing work. Six contact hours.

# Art History (ARTH)

**ARTH 1211. Art History Survey I. (3)** Survey of world art from prehistory to c. 1300C.E., focusing on the functions and meanings of individual works of art, visual culture, and art history as a discipline. Lecture course.

**ARTH 1212. Art History Survey II. (3)** Survey of world art from c. 1300C.E. to the close of the second World War, focusing on the functions and meanings of individual works of art, visual culture, and art history as a discipline. Lecture course.

**ARTH 2001. Topics in Art History. (3)** Special Topics in art history. *May be repeated for credit with change in topic.* Lecture course.

**ARTH 2003. Pre-Columbian Art. (3)** Cross-listed Course(s): LTAM 3313. Prerequisite(s): ARTH 1212 or permission of instructor. Survey of the cultures, artistic production and architecture of the Pre-Columbian Americas. Readings and discussions focus on artistic traditions, daily life, and political structures.

**ARTH 2110. Contemporary Art History. (3)** Prerequisite(s): Art, Art History or Graphic Design major. History of primary art movements, artists, and visual culture from 1940 to the present, including theoretical and historical perspectives.

**ARTH 2140. Medieval Art. (3)** Prerequisite(s): ARTH 1211 or permission of instructor. Survey of the architecture, sculpture, stained glass, mosaics, painting, manuscript illumination, and luxury objects of Europe between the fall of the Roman Empire until the beginning of the Renaissance, both in the Byzantine Empire and the western Middle Ages.

**ARTH 2614. Writing Seminar in Art History. (3)** Prerequisite(s): Art History major. An introductory course designed to familiarize students with writing in the discipline. Through weekly writing assignments, peer-review activities, reflections, and presentations, students develop the ability to structure written work in a well-organized manner, to assemble and assess primary source material, to demonstrate logic and argumentation, to develop clear thesis statements, and to strengthen analytical skills by reviewing written essays, museum texts, and gallery or museum shows.

**ARTH 3001. Topics in Art History. (1 to 3)** Special topics in art history. *May be repeated for credit with change of topic.*

**ARTH 3114. Art History Methods. (3)** Prerequisite(s): Art History major; ARTH 1211, ARTH 1212, and ARTH 2110; or permission of instructor. Survey of primary methodologies, theories and research in the history of art and art criticism, including formalism; iconography; connoisseurship; biography; social history; Marxism; feminism; postmodern, and contemporary theory.

**ARTH 3115. Honors Art History Methods. (3)** Prerequisite(s): Art History major; ARTH 1211, ARTH 1212, and ARTH 2110; or permission of instructor. Survey of primary methodologies, theories and research in the history of art and art criticism, including formalism; iconography; connoisseurship; biography; social history; Marxism; feminism; postmodern, and contemporary theory.

**ARTH 3121. Contemporary African Art. (3)** Cross-listed Course(s): AFRS 3121. Prerequisite(s): ARTH 1211, ARTH 1212, or permission of instructor. Survey of contemporary African artists and artworks (1960s to the present day), on the continent and in the diaspora, with international profiles. Readings and discussions focus on politics, gender, class, identity, and mobility.

**ARTH 3317. Maya Art. (3)** Cross-listed Course(s): LTAM 3300. Prerequisite(s): ARTH 1211 or permission of instructor. Survey of the cultures, artistic production and architecture of the Maya from c. 250 to 800 C.E. Readings and discussions focus on Maya rulership and social structure.

**ARTH 3318. Mexica (Aztec) Art. (3)** Cross-listed Course(s): LTAM 3301. Prerequisite(s): ARTH 1212 or permission of instructor. Survey of the cultures, artistic production and architecture of the Central Mexico region from c. 1300 to the period of European invasion in the 16th century. Readings and discussions focus on artistic traditions, daily life, and political structures.

**ARTH 3320. Ancient Egyptian and Near Eastern Art. (3)** Prerequisite(s): ARTH 1211 or permission of instructor. Survey of the arts and architecture of the ancient Near East, Egypt, and Aegean from 3000 - 600 BCE. Readings and discussions focus on issues of ethnicity, gender, religion, and politics.

**ARTH 3322. Ancient Greek Art. (3)** Prerequisite(s): ARTH 1211 or permission of instructor. Survey of the arts and architecture of the ancient Greeks, Etruscans, and Persians from c. 800-31 B.C.E. Readings and discussions focus on issues of ethnicity, gender, religion, and politics.

**ARTH 3323. Ancient Roman Art I. (3)** Prerequisite(s): ARTH 1211. Survey of the arts and architecture of the peoples included in the Roman Empire from c. 300 B.C.E. to c. 100 C.E. Readings and discussions focus on issues of ethnicity, gender, religion, and politics during the later Empire and its provinces.

**ARTH 3324. Ancient Roman Art II. (3)** Prerequisite(s): ARTH 1211. Survey of the arts and architecture of the peoples included in the Roman Empire from c. 100 to c. 300 C.E. Readings and discussions focus on issues of ethnicity, gender, religion, and politics during the later Empire and in its provinces.

**ARTH 3328. West African Art and Display. (3)** Cross-listed Course(s): AFRS 3328. Prerequisite(s): ARTH 1212 or permission of instructor. Addresses major genres, monuments, and issues of artistic production in West Africa. Readings and discussions focus on politics, identity, gender, performance, collection, and display.

**ARTH 3350. Northern Renaissance Art. (3)** Prerequisite(s): ARTH 1212. Survey of Netherlandish and German painting, printmaking, and sculpture of the Renaissance. Readings and discussions focus on religion, patronage, and the uses of art in society.

**ARTH 3351. Italian Renaissance Art. (3)** Prerequisite(s): ARTH 1212 or permission of instructor. Survey of major artists and issues in Italian Renaissance art and architecture. Readings and discussions focus on major centers of artistic activity, patronage, and the rise of Humanism.

**ARTH 3360. Northern Baroque Art. (3)** Prerequisite(s): ARTH 1212 or permission of instructor. Survey of Northern European art from the 16th and 17th centuries. Readings and discussions focus on a variety of artistic genres and art's relationship to religion and politics.

**ARTH 3381. Modernism. (3)** Prerequisite(s): ARTH 1212 or permission of instructor. This course will address the history of modern art from 1850-1950 with a special emphasis on the European avant-garde, issues of identity construction (race, gender, sexuality), and theoretical discussions of representation.

**ARTH 3393. History of Photography. (3)** Prerequisite(s): Art or Art History major; and ARTH 1212 or permission of instructor. Survey of the major events and stylistic developments in photography from 1839 to the present.

**ARTH 3395. African American Art. (3)** Cross-listed Course(s): AFRS 3395. Prerequisite(s): ARTH 2110 or permission of instructor. Survey of the major movements and issues of African American artistic production, from the 17th century to the present day. Readings and discussions focus on stylistic developments, politics, race, gender, identity, and representation.

**ARTH 3694. Histories of New Media. (3)** Prerequisite(s): ARTH 1212; and BFA Studio Art major with Concentration in Digital Media, Photography, or Print Media; or Art History major. Examines the history of new media as both a discourse and a set of artistic practices within contemporary art history. The aim of this seminar is to introduce students to the cultural, historical, theoretical, and socio-political issues that inhere within the discourse and creation of new media, whether it be animation, video art, digital photography, films, or interactive platforms. Leading works in the history of new media art history, philosophy, and cultural studies are read.

**ARTH 3810. Independent Study in Art History. (1 to 3)** Prerequisite(s): Permission of instructor. Supervised individual investigation of art history topic with appropriate documentation of research results. *May be repeated for credit.*

**ARTH 4609. Art History Senior Seminar. (3)** Prerequisite(s): Art History major, ARTH 2614 and ARTH 3114; or permission of instructor. A capstone seminar designed around an issue in Art History, in subjects determined by the professor of record: requiring reading, discussion, reports, and a major paper. *May be repeated for credit with change of topic.*

**ARTH 4700. Art History Honors Thesis. (3)** Prerequisite(s): ARTH 3115 with grade of A; permission of instructor; and approval of a proposal through the Honors College Application to Candidacy process the semester prior to taking the course. The preparation and presentation of an acceptable Honors thesis or its equivalent. The final course in a required three-course sequence for Honors in Art History. Completion of a thesis earning a grade C or above meets the requirement for a 4000-level course in the major; a grade of A is required to earn honors.

# Art: Illustration (ARTL)

**ARTL 2186. Illustration I. (3)** Prerequisite(s): Art or Graphic Design major; ARTB 1201; ARTB 1202; ARTB 1203; ARTB 1204; and ARTB 1206 or ARTG 2180. Introduction to the field of illustration. Projects will focus on traditional and digital media exploration, visual literacy, and conceptual development. Six contact hours.

**ARTL 3086. Topics in Illustration. (3)** Prerequisite(s): Art or Graphic Design major; ARTL 2186. Special topics in illustration. *May be repeated for credit with change of topic.*

**ARTL 3185. Digital Drawing & Painting. (3)** Prerequisite(s): ARTB 1201, ARTB 1202, ARTB 1203, ARTB 1204. Introduction to tablet-based drawing and painting using industry standard software. Series of assignments that build basic digital rendering skills with a focus on visual problem-solving, rendering, and drawing. Six contact hours.

**ARTL 3186. Visual Development: Environment. (3)** Prerequisite(s): Art or Graphic Design major, ARTL 2186. Introduction to designing natural and constructed spaces for purposes such as game design, animation, film and television production design, and graphic novel narrative. Students will practice an iterative design process that involves research, design, planning and construction. Six contact hours.

**ARTL 3187. Narrative Illustration for Publishing Industry. (3)** Prerequisite(s): Art major, ARTA 3201, and ARTL 2186; or Graphic Design major. An introduction to visualizing a sequential narrative for publication through the use of character, mood, and environment to tell a story or develop a conceptual idea. May include children's book illustration, comics, graphic novels, and commercial illustration. Six contact hours.

**ARTL 3188. Visual Development: Character Design. (3)** Prerequisite(s): Art major, ARTA 3201, and ARTL 2186; or Graphic Design major. Focus on development of character design skills based in costume design, anatomical study, movement study and cultural constructs. Acquire familiarity with overall production sequence in creation of films, graphic novels, and games. Six contact hours.

**ARTL 3286. Narrative Illustration for Entertainment Industry. (3)** Prerequisite(s): Art major, ARTA 3201, and ARTL 2186; or Graphic Design major. An introduction to developing plot-based narrative for film, TV, and game production. May include storyboard design, animation, game design and research related to a variety of markets. *Six Contact Hours.*

**ARTL 4981. Illustration Projects. (3)** Prerequisite(s): Art or Graphic Design major; ARTA 3201, ARTL 3186, ARTL 3187. Pre- or Corequisite(s): ARTL 3286, and ARTA 4600. Initiation and implementation of a self-designed, advanced-level project solving a complex artistic problem. Research in self-promotion, professional practice, and portfolio refinement required. Six contact hours.

## Art: Digital Media (ARTM)

**ARTM 2105. 4D. (3)** Prerequisite(s): ARTB 1204. Pre- or Corequisite(s): Art or Graphic Design major; ARTB 1201; ARTB 1202; ARTB 1203; and ARTB 1206 or ARTG 2180. In-depth digital production of 2D graphics toward the creation of time-based works employing the Principles of Animation and sound design. Six contact hours.

**ARTM 3005. Topics in Digital Media. (3)** Prerequisite(s): Art major and ARTA 3201; or Graphic Design major; and permission of instructor. Special topics in the creation of digital art. *May be repeated for credit with change of topic.*

**ARTM 3101. 2D Game Design. (3)** Prerequisite(s): Art or Graphic Design major, or permission of instructor; and ARTM 2105. 2D graphics, animation, and sound design for digital games. Topics include: game engines, graphics and animation for 2D digital games, special concerns for 2D game design, UX and UI for 2D games, and team-based production across disciplines. Six contact hours. *May be repeated for credit.*

**ARTM 3102. 3D Modeling and Animation. (3)** Prerequisite(s): Art or Graphic Design major. Pre- or Corequisite(s): ARTM 2105. Intermediate studio exploring the use of digital 3D technologies for the creation or art and design works. Six contact hours.

**ARTM 3103. Animation Production. (3)** Prerequisite (s): Art or Graphic Design major, or permission of instructor; ARTM 2105. Focuses on animation production, including topics in character animation, pre-through post-production workflow, organization of complex productions, funding sources, and distribution of time-based media. Six contact hours. *May be repeated for credit.*

**ARTM 3105. Video Art. (3)** Prerequisite(s): Art or Graphic Design major; and ARTM 2105. Video as an art form, including basic techniques of video production, editing, and visual effects. Six contact hours.

**ARTM 3204. 3D Game Design. (3)** Prerequisite(s): ARTB 1204; Art or Graphic Design Major, or by permission of instructor. Interactive art and design with 3D game engines. Topics include: 3D game engines; special concerns for assets, animation, sound, and UI for 3D game design, UX (user-experience) design, and team-based production across disciplines. Six contact hours. *May be repeated for credit.*

**ARTM 3205. Interactive Art and Design. (3)** Prerequisite(s): Art major or Graphic Design major; ARTA 3201 or ARTG 3183 and ARTM 2105. Advanced work in interactive design. Six contact hours.

**ARTM 3390. Digital Compositing. (3)** Cross-listed Course(s): ARTT 3390. Prerequisite(s): Art or Graphic Design major; and ARTB 1204. Advanced digital manipulation of photographic imagery in digital photography software, and the exploration of historical and contemporary theory surrounding the manipulation of the photographic medium. Six contact hours.

**ARTM 3405. Internship in Digital Media. (3)** Prerequisite(s): Art or Graphic Design major; ARTM 3101 and ARTM 3102; and permission of instructor, department, and sponsor (required prior to course registration). Placement in a professional setting for observation and supervised digital media-related duties. This experience requires 120 contact hours per semester. Written documentation of internship required. *May be repeated for credit with change in sponsor. Graded on a Pass/No Credit basis.*

## Art: Painting (ARTP)

**ARTP 2131. Painting I. (3)** Pre- or Corequisite(s): Art or Graphic Design major; ARTB 1201; ARTB 1202; ARTB 1203; ARTB 1204; and ARTB 1206 or ARTG 2180. Beginning painting studio, exploration of theory and practice, with a focus on traditional and contemporary methods and mediums in painting, ranging from oil paint to introduction of water-based, digital, and mixed-media approaches. Students are introduced to the work of culturally diverse painters and encouraged to develop unique expressive content of their own. Six contact hours.

**ARTP 3031. Topics in Painting. (3)** Prerequisite(s): ARTP 2131; Art or Graphic Design major. Special topics in painting. *May be repeated for credit with change of topic.*

**ARTP 3131. Abstract Painting. (3)** Prerequisite(s): Art or Graphic Design major, and ARTP 2131. Intermediate studio exploring varieties of abstraction in modern and contemporary painting practice, utilizing diverse media (e.g., acrylics, inks, and an introduction of encaustics). Students are encouraged to develop their own visual language and content in response to trends and methods in 21st century abstraction. Six contact hours.

**ARTP 3132. Figurative Painting. (3)** Prerequisite(s): Art or Graphic Design major; ARTD 3134; ARTP 2131; and ARTA 3201 or Graphic Design major. Intermediate studio exploring the human form as a vehicle for artistic expression using a variety of painting media (e.g., oil, acrylic, watercolor, egg tempera, and experimental processes). Students are introduced to diverse historic and contemporary approaches to figuration and encouraged to develop unique expressive content of their own. Integration of various media and disciplines is fully acceptable. Six contact hours. *May be repeated for credit.*

**ARTP 3161. Mixed Media Painting. (3)** Prerequisite(s): ARTP 2131 and Art major; or Graphic Design major. Intermediate studio course exploring a variety of mixed-media approaches, including drawing, painting, collage, and assemblage upon a range of substrates, with a possibility of developing large-scale, site specific collaborations in public spaces. Exact format of this class may vary each semester. Six contact hours. *May be repeated for credit.*

## Art: Print Media (ARTR)

**ARTR 2161. Photo-Mechanical Print Media. (3)** Pre- or Corequisite(s): Art or Graphic Design major; ARTB 1201; ARTB 1202; ARTB 1203; ARTB

1204; and ARTB 1206 or ARTG 2180. Introduction and survey of photo-mechanical printmaking processes, including photo-based screenprinting, photo-etching, photo-lithography, and digital printing. Learn the history and context of photo-mechanical printmaking, as well as its application in contemporary art practices. Explore photo-mechanical printmaking through various print projects including monoprints, varied editions, and conventional editions. Six contact hours.

**ARTR 2162. Drawing/Expression in Print Media. (3)** Pre- or Corequisite(s): Art or Graphic Design major; ARTB 1201; ARTB 1202; ARTB 1203; ARTB 1204; and ARTB 1206 or ARTG 2180. Introduction and survey of analog printmaking processes, including relief printmaking (linoleum or woodblock), etching/intaglio printmaking, monotype printmaking, as well as drawing-based methods in screenprinting and/or lithography. Learn the history and context of traditional/analog printmaking and its applications in contemporary art practices. Explore mark-making and expression through various printmaking projects including monoprints, varied editions, and conventional editions. Six contact hours.

**ARTR 3061. Topics in Print Media. (3)** Prerequisite(s): ARTR 2161 or ARTR 2162; Art major or Graphic Design major. Special topics in print media. *May be repeated for credit with change of topic.*

**ARTR 3162. Large Format Printing and Mixed Media. (3)** Prerequisite(s): Art or Graphic Design major; ARTR 2161; and ARTR 2162. Studio course focused on large format printing, collaboration, and mixed-media. Learn how to create and produce large format prints via hand-pulled, digital, and commercial printing methods. Students collaborate on large-scale public artworks for murals and exhibits integrating printed matter with drawing and painting, investigating traditional and non-traditional substrates. Six contact hours. *May be repeated for credit.*

**ARTR 3263. Mixed-Media Bookmaking and Papermaking. (3)** Prerequisite(s): Art or Graphic Design major; and ARTR 2161 or ARTR 2162. Studio course focused on print production methods for creating handmade papers and books. An introduction to book art forms, including hand-sewn Western Codex, Japanese binding, accordion pleats, sculptural book forms and pop-ups, etc. Students create a portfolio of handmade papers using abaca and other fibers, and explore three-dimensional paper forms. Six contact hours. *May be repeated for credit.*

# Art: Photography (ARTT)

**ARTT 2191. Photographic Media I. (3)** Prerequisite(s): Art or Graphic Design major. Pre- or Corequisite(s): ARTB 1201; ARTB 1202; ARTB 1203; ARTB 1204; and ARTB 1206 or ARTG 2180. Fundamental principles, processes, and aesthetic vision of photography. Introduction to photographic theory, operation of cameras, and basic photographic materials and techniques. Principles of photography as a means of personal expression. Six contact hours. Six contact hours.

**ARTT 3091. Topics in Photography. (3)** Prerequisite(s): ARTT 2191 or ARTT 3190; Art or Graphic Design major, and permission of instructor. Special topics in photography. *May be repeated for credit with change of topic.* Six contact hours.

**ARTT 3190. Digital Photography: Color, Light, and Lens. (3)** Prerequisite(s): Art or Graphic Design major; and ARTB 1201; ARTB 1202; ARTB 1203; ARTB 1204; and ARTB 1206 or ARTG 2180. Exploration of the technical and aesthetic parameters unique to digital photography. Forms of input and output are discussed along with advanced applications of digital photographic techniques. Six contact hours. *May be repeated for credit one time.*

**ARTT 3191. Camera and Light. (3)** Prerequisite(s): Art or Graphic Design major, and ARTT 2191. Principles and practices of small, medium or large format photography, in conjunction with available and studio lighting techniques. Emphasis on personal expression. Six contact hours. *May be repeated for credit one time.*

**ARTT 3193. Alternative and Historic Photographic Media. (3)** Prerequisite(s): ARTT 2191 or ARTT 3190 or ARTT 3390; Art or Graphic Design major. Exploration of alternative and historic photographic processes in combination with advanced applications of digital imaging software. Emphasis on personal expression. Six contact hours. *May be repeated for credit.*

**ARTT 3195. Visual Narrative. (3)** Prerequisite(s): Art or Graphic Design major, and ARTT 2191. Examines the nature of visual narrative to portray the human condition through the photographic document and ethical storytelling. Historical information and contemporary concerns are explored. Six contact hours. *May be repeated for credit.*

**ARTT 3291. Creative Practices in Photography. (3)** Prerequisite(s): ARTB 1201; ARTB 1202; ARTB 1203; ARTB 1204; and ARTB 1206 or ARTG 2180; Art or Graphic Design major. Advanced study of photography for individual creative expression with an emphasis on contemporary photographic topics, methodologies, and professional practices. *May be repeated for credit.*

**ARTT 3390. Digital Compositing. (3)** Cross-listed Course(s): ARTM 3390. Prerequisite(s): Art or Graphic Design major; and ARTT 2191 or ARTM 2105. Advanced digital manipulation of photographic imagery in digital photography software, and the exploration of historical and contemporary theory surrounding the manipulation of the photographic medium. Six contact hours. *May be repeated for credit one time.*

**ARTT 3391. Beyond the Print: Experimental and Material-Based Photography. (3)** Prerequisite(s): ARTT 2191 or ARTT 3190 or ARTT 3390 or ARTM 3390; Art or Graphic Design major. Exploration of contemporary photographic mixed media techniques, including the combination of traditional and digital methods. Experimental studies in the personal and imaginative use of photographic materials. Six contact hours. *May be repeated for credit.*

**ARTT 3409. Internship in Photography. (3)** Prerequisite(s): ARTT 3190; Art or Graphic Design major, and permission of instructor, department, and sponsor (consents required prior to registration). Opportunity for students to observe, examine, and participate in the creative dynamics and procedural operations of photographically related organizations, businesses, or museum studies. Sponsor and faculty supervised. This experience requires 120 contact hours per semester. *May be repeated for credit with change in sponsor. Graded on a Pass/No Credit basis.*

# Art: Sculpture (ARTZ)

**ARTZ 2104. Installation Art. (3)** Prerequisite(s): Art or Graphic Design major. Pre- or Corequisite(s): ARTB 1201; ARTB 1202; ARTB 1203; ARTB 1204; and ARTB 1206 or ARTG 2180. Techniques and methods of creating Installation Art, from the generation of initial ideas, to experimentation, mockups, and final assembly. Emphasis on the historical and creative issues surrounding the nature and definition of installation art. Six contact hours. *May be repeated for credit.*

**ARTZ 2141. Methods and Materials in Sculpture. (3)** Prerequisite(s): Art or Graphic Design major. Pre- or Corequisite(s): ARTB 1201; ARTB 1202; ARTB 1203; ARTB 1204; and ARTB 1206 or ARTG 2180. Introduction to the modeling of the human body, including portraiture, in traditional and contemporary materials. Students learn how to build an armature, model an original form and make 3D reproductions, working with clay, plaster, plasticine, resins, plastic, silicone, and other casting materials, while exploring the expressive qualities of three-dimensional art making. Six contact hours.

**ARTZ 2306. Introduction to 3D Modeling and Digital Fabrication. (3)** Prerequisite(s): ARTB 1204; Art or Graphic Design major. Pre- or Corequisite(s): ARTB 1201; ARTB 1202; ARTB 1203; and ARTB 1206 or ARTG 2180. Introductory studio exploring the use of computer-aided design for the creation or art and design works. Introduces 3D modeling software such as 123D Design, Blender, and/or Rhino, as well as a series of fabrication methods. Projects emphasize the use of digital fabrication as a tool for realizing conceptually driven work in ceramics, fiber, and sculptural media. Six contact hours.

**ARTZ 3041. Topics in Sculpture. (3)** Prerequisite(s): ARTZ 2141 or ARTZ 2104; Art major or Graphic Design major. Special Topics in sculpture. *May be repeated for credit with change of topic.*

**ARTZ 3142. Sculpture: Metal Fabrication and Bronze Casting. (3)** Prerequisite(s): Art or Graphic Design major; and ARTC 2171, ARTC 2172, ARTF 2151, ARTZ 2141, or ARTZ 2306. Investigation of theory and practice in contemporary sculpture; introduction of fabrication methods such as welding, cutting, bending, lost wax bronze casting technique, melting and casting metal and bronze finishing. Creative research, experimentation, and development of a personal voice are at the core of this course. Six contact hours.

**ARTZ 3243. Sculpture: Wood and Stone Carving. (3)** Prerequisite(s): Art or Graphic Design major; and ARTC 2171, ARTC 2172, ARTF 2151, ARTZ 2141, or ARTZ 2306. Subtractive methods of sculpting in three-dimensional and two-dimensional relief forms. Introduction of tools and techniques of wood and stone carving. Assignments include model-making and casting as preparation for carving projects. The aim of this course is an analytical and critical approach to art making. Projects include sculpture/relief design with a focus on learning to communicate ideas and concepts while utilizing different materials and forms of expression. Six contact hours.

**ARTZ 3306. Advanced 3D Modeling and Digital Fabrication. (3)** Prerequisite(s): Art or Graphic Design major; ARTA 3201 and ARTZ 2306. Whereas ARTZ 2306 focuses primarily on learning foundational software and fabrication methods, this advanced course aims to integrate these techniques with analog making methodologies and explore the conceptual implications of digital making within a greater art and design context. Additionally, students are exposed to advanced 3D modeling and fabrication methods. Projects emphasize the use of digital fabrication towards the development of a personal design language. Six contact hours.

**ARTZ 3344. Sculpture: Mixed Media. (3)** Prerequisite(s): Art or Graphic Design major; and ARTC 2171, ARTC 2172, ARTF 2151, ARTZ 2141, or ARTZ 2306. Advanced metal, wood, and plastic fabrication techniques. Exploration of mixed-media sculpture, through non-traditional materials, including man-made and natural found objects and methods such as recycling and upcycling. Introduction to an environmentally friendly studio practice. Exploration of topics and ideas in the 21st century sculpture. Six contact hours.

# Bioinformatics and Genomics (BINF)

**BINF 1101. Introduction to Bioinformatics and Genomics. (4)** Introduction to the genomics perspective in the life sciences, combining a general introduction to genomic technologies and the bioinformatics methods used to analyze genome-scale data with a presentation of real world scientific problems where these technologies are having an impact. The lab component provides hands-on experience with biological sequence and structure databases, using small-scale projects to introduce students to the world of bioinformatics research. *Fulfills the General Education Natural Science and Lab requirement.*

**BINF 2111. Introduction to Bioinformatics Computing. (4)** Introduction of fundamentals of programming for bioinformatics (sometimes called "scripting") using current programming languages and paradigms. Introduces both the language and the use of the language within a Unix environment, demonstrating how interpreted languages serve both as a useful tool for writing and testing programs interactively and as a powerful data analysis and processing tool for bioinformatics. Hands-on computing labs in which students learn bioinformatics computing and programming are also included.

**BINF 3101. Sequence Analysis. (3)** Prerequisite(s): Permission of instructor. The purpose, application, and biological significance of bioinformatics methods that identify sequence similarity, methods that rely on sequence similarity to produce models of biological processes and systems, as well as methods that use sequence characteristics to predict functional features in genomic sequence data.

**BINF 3121. Statistics for Bioinformatics. (3)** Prerequisite(s): BINF 2111 and satisfactory completion of either MATH 1103, MATH 1120, MATH 1121, MATH 1241, STAT 1220, STAT 1221, STAT 2122, or permission of instructor based on sufficient demonstration of foundational mathematics concepts. Concepts from probability, stochastic processes, information theory, and other statistical methods are introduced and illustrated by examples from molecular biology, genomics and population genetics while exploring the use of the R and Bioconductor software for biostatistical analysis.

**BINF 3131. Bioinformatics Algorithms. (4)** Prerequisite(s): Permission of instructor. Introduction to common algorithms and data structures for bioinformatics problems. Focuses on teaching students how to formulate a biological problem as a computational problem, and then solving it

using efficient algorithms. Intended for students who have programming skills and basic molecular biology knowledge.

**BINF 3201. Genomic Methods. (4)** Prerequisite(s): BIOL 1110 and BIOL 1110L; or BIOL 2120; or permission of instructor. Pre- or Corequisite(s): BINF 1101. Lecture topics introduce students to core concepts in genomics that allow bench scientists to acquire large datasets in a high-throughput manner as well as address the computational methods used to analyze these data resources. Labs are intended to give students hands-on experience in setting up and performing experiments with an emphasis on nucleic acid and protein profiling, understanding and troubleshooting published protocols, and interpreting the data using computational tools.

**BINF 3900. Undergraduate Research. (1 to 3)** Prerequisite(s): BINF 1101 and permission of instructor. Enables students in the Bioinformatics and Genomics program to initiate research projects in their respective fields of interest and to interact with faculty in pursuing research experience. *May be repeated for credit.*

**BINF 4010. Topics in Bioinformatics and Genomics. (1 to 3)** Prerequisite(s): Permission of department. Exploration of specific topics from the areas of bioinformatics and genomics. *May be repeated for credit with permission of department; students may register for multiple sections of the course with different topics in the same or different semesters.*

**BINF 4171. Business of Biotechnology. (3)** Prerequisite(s): Junior or Senior standing in a scientific/technical course of study or if in a non-biological/technical or scientific program, special permission of instructor. Introduces students to the field of biotechnology and how biotech businesses are created and managed. The students should be able to define biotechnology and understand the difference between a biotech company and a pharmaceutical company. Additional concepts covered will include platform technology, biotechnology's history, biotechnology products and development processes, current technologies used by biotech companies today, biotechnology business fundamentals, research and development within biotech companies, exit strategies, and careers in the biotech field.

**BINF 4191. Life Sciences and the Law. (3)** Prerequisite(s): Junior or Senior standing in a scientific/technical major or permission of instructor if in a non-biological/technical or scientific major. Law and regulations permeate our daily lives, and nowhere is this truer than in areas of life sciences. This course explores what the law is, how our current laws developed, and factors currently affecting the evolution of the law. It provides a general overview of U.S. law, including constitutional law, criminal law, contract law, tort law, property law (especially intellectual property law), business law (especially legal aspects of forming a new company), and administrative law. It then focuses on specific aspects of the law affecting the life sciences, such as ownership of tissues and organisms, regulation of drugs and medical devices, regulation of research in the life sciences, the history and regulation of medicine, the economics and various types of health care delivery, and food production.

**BINF 4211. Applied Data Mining for Bioinformatics. (4)** Prerequisite(s): Permission of department. Concepts and techniques of evaluating bioinformatics data. The objective of this course is to provide students with a working knowledge of data sources, current tools and methodologies used for bioinformatics research though a variety of hands-on data analysis activities.

**BINF 4600. Bioinformatics and Genomics Seminar. (1)** Pre- or Corequisite(s): BINF 3101 or permission of instructor. A Senior-level seminar course designed to introduce students to the research being conducted in both the Department of Bioinformatics and Genomics at UNC Charlotte, as well as through invited speakers from other universities.

**BINF 4650. Senior Project. (1 to 3)** Prerequisite(s): Senior standing and permission of department. An individual or group project in the teaching, theory, or application of bioinformatics, genomics, or computational biology under the direction of a faculty member. Projects must be approved by the department before they can be initiated. *May be repeated one time.*

**BINF 4900. Principles of Team Science. (3)** Prerequisite(s): Permission of department. Introduction of appropriate project design, implementation, and management skills needed to function as a small team solving typical problems in bioinformatics and genomics. Students are given realistic problems and are required to develop specifications, deliverables, timelines, and costs. Under faculty supervision, the group assigns roles, responsibilities, and deadlines in order to complete the project and then execute the project. At the end of the course, the group produces a written document with deliverables and makes a formal presentation of the project. *May be repeated for credit.*

# Biology (BIOL)

**BIOL 1000. Special Topics in Biology. (1 to 4)** Prerequisite(s): Varies by topic offered. Special topics for non-majors in Biology. *May be repeated for credit with change of topic.* Lecture hours and laboratory hours vary by courses taught.

**BIOL 1110. Principles of Biology I. (3)** Introduction to biology for non-majors. Fundamental principles of life with a human emphasis. *Not accepted toward the Biology major.*

**BIOL 1110L. Principles of Biology I Laboratory. (1)** Pre- or Corequisite(s): BIOL 1110. Not accepted toward the Biology major. Three contact hours.

**BIOL 1115. Principles of Biology II. (3)** Prerequisite(s): BIOL 1110 with grade of C or above. Continuation of BIOL 1110 for non-majors. Fundamental principles of life with a human emphasis.

**BIOL 2000. Special Topics in Biology. (1 to 4)** Prerequisite(s): Varies by topic offered. Special introductory topics for biology majors and minors. *May be repeated for credit with change of topic.* Lecture hours and laboratory hours vary with the courses taught.

**BIOL 2120. General Biology I. (3)** Prerequisite(s): Appropriate eligibility level of BIOL placement; BIOL 1110 with grade of B or above or placement

by the department. Origin and early evolution of life, basic principles of chemistry, cell biology, and genetics. Three lecture periods per week. *May not be attempted more than twice.*

**BIOL 2120L. General Biology I Laboratory. (1)** Corequisite(s): BIOL 2120. The accompanying laboratory to BIOL 2120. Experimental scientific inquiry into the concepts addressed in General Biology I. Three contact hours.

**BIOL 2130. General Biology II. (3)** Prerequisite(s): BIOL 2120 and BIOL 2120L with grade of C or above or placement by the department. Corequisite(s): BIOL 2130L with grade of C or above, or placement by the department. Ecology, evolution, biodiversity, plant and animal structure and function. Three lecture periods per week. *May not be attempted more than twice.*

**BIOL 2130L. General Biology II Laboratory. (1)** Prerequisite(s): BIOL 2120 and BIOL 2120L with grade of C or above, or placement by the department. Corequisite(s): BIOL 2130. The accompanying laboratory to BIOL 2130. Experimental scientific inquiry into the concepts addressed in General Biology II. Three contact hours.

**BIOL 2140L. General Biology Laboratory. (2)** Prerequisite(s): BIOL 2120 or BIOL 2130 with grade of C or above. Population ecology, evolution, phylogenetics, invertebrate biology, animal and plant physiology. One three-hour laboratory period and linked laboratory lecture per week. *May not be attempted more than twice.*

**BIOL 2259. Fundamentals of Microbiology. (3)** Prerequisite(s): BIOL 1110 or BIOL 2120 with grade of C or above; CHEM 1203 or CHEM 1251 with grade of C or above. Basic physiology of bacteria, fungi, protozoa, and viruses, with emphasis on host-parasite interaction and control and epidemiology of infectious diseases. *Not accepted toward the Biology major. May not be attempted more than twice.*

**BIOL 2259L. Fundamentals of Microbiology Laboratory. (1)** Pre- or Corequisite(s): BIOL 2259. One laboratory period of three hours per week. Attendance mandatory for safety training. *Not accepted toward the Biology major. May not be attempted more than twice.* Three contact hours.

**BIOL 2273. Human Anatomy and Physiology. (3)** Prerequisite(s): BIOL 1110 or BIOL 2120 with grade of C or above; CHEM 1203 or CHEM 1251 with grade of C or above. Corequisite Course(s): BIOL 2273L. Fundamentals of the anatomy and physiology of the human body. *Not accepted toward the Biology major. May not be attempted more than twice.*

**BIOL 2273L. Human Anatomy and Physiology Laboratory. (1)** Corequisite Course(s): BIOL 2273. One laboratory period of three hours a week. Three contact hours. *Not accepted toward the Biology major. May not be attempted more than twice.*

**BIOL 2274. Human Anatomy and Physiology II. (3)** Prerequisite(s): BIOL 2273 with grade of C or above. Co-requisite Course(s): BIOL 2274L. Continuation of BIOL 2273. *Accepted toward the Biology major. May not be attempted more than twice.*

**BIOL 2274L. Human Anatomy and Physiology II Laboratory. (1)** Corequisite Course(s): BIOL 2274. One laboratory period of three hours a week. Three contact hours. *Accepted toward the Biology major. May not be attempted more than twice.*

**BIOL 3000. Special Topics in Biology. (1 to 4)** Prerequisite(s): Varies by topic offered. Special topics for intermediate-level Biology majors and minors. *May be repeated for credit with change of topic.* Lecture hours and laboratory hours vary with the courses taught.

**BIOL 3111. Cell Biology. (3)** Prerequisite(s): Biology major or minor or permission of department; and BIOL 2120, BIOL 2130, CHEM 1252, and CHEM 1252L with grades of C or above. Structure and function of cells. Biomolecular structures and their interactions including membranes, proteins and nucleic acids.

**BIOL 3111L. Cell Biology Laboratory. (1)** Prerequisite(s): BIOL 2140L with grade of C or above. Pre- or Corequisite(s): BIOL 3111. The accompanying lab to BIOL 3111. Structure and function of cells. Biomolecular structures and their interactions including membranes, proteins and nucleic acids. One laboratory period of three hours a week. *Three contact hours.*

**BIOL 3144. Ecology. (3)** Prerequisite(s): Biology major or minor or permission of department; and BIOL 2120, BIOL 2130, CHEM 1252, and CHEM 1252L with grades of C or above. Interrelationships of organisms and their environment.

**BIOL 3144L. Ecology Laboratory. (1)** Prerequisite(s): BIOL 2140L with grade of C or above. Pre- or Corequisite(s): BIOL 3144. The accompanying lab to BIOL 3144. Interrelationships of organisms and their environment. One laboratory period of three hours a week. *Three contact hours.*

**BIOL 3161. Introduction to Biotechnology. (3)** Prerequisite(s): BIOL 1110 or BIOL 2120 with grade of C or above, or permission of department. An overview of basic molecular biology, techniques, and uses of biotechnology tools in environmental and biomedical fields. Three lecture hours per week.

**BIOL 3166. Genetics. (3)** Prerequisite(s): Biology major or minor or permission of department; BIOL 2120, BIOL 2130, CHEM 1252, and CHEM 1252L with grades of C or above. Basic concepts of heredity; principles of classical, molecular, and population genetics.

**BIOL 3166L. Genetics Laboratory. (1)** Prerequisite(s): BIOL 2140L with grade of C or above. Pre- or Corequisite(s): BIOL 3166. The accompanying lab to BIOL 3166. Basic concepts of heredity; principles of classical, molecular, and population genetics. One laboratory period of three hours a week. Three contact hours.

**BIOL 3202. Horticulture. (3)** Prerequisite(s): Biology major or minor or permission of department; BIOL 2120 and BIOL 2130 with grades of C or above. Principles of horticulture, greenhouse management, environmental factors, production, and maintenance of cultivars, and landscaping.

**BIOL 3202L. Horticulture Laboratory. (1)** Prerequisite(s): BIOL 2140L. Pre- or Corequisite(s): BIOL 3202. Greenhouse work, plant identification, and field trips. One laboratory period of three hours a week.

**BIOL 3215. Economic Botany. (3)** Prerequisite(s): Biology major or minor or permission of department; BIOL 2120 and BIOL 2130 with grades

of C or above. Origins of agricultural plants; history of use and misuse of plants by humans; consideration of major groups of crop, spice, medicinal, and drug plants.

**BIOL 3222. General Botany. (3)** Prerequisite(s): Biology major or minor or permission of department; BIOL 2120 and BIOL 2130 with grades of C or above. Morphology, physiology, reproduction, phylogeny, and ecology of plants.

**BIOL 3222L. General Botany Laboratory. (1)** Prerequisite(s): BIOL 2140L. Pre- or Corequisite(s): BIOL 3222. The accompanying lab to BIOL 3222. Morphology, physiology, reproduction, phylogeny, and ecology of plants. One laboratory period of three hours a week.

**BIOL 3229. Field Botany. (3)** Prerequisite(s): Biology major or minor or permission of department; BIOL 2120, BIOL 2130, and BIOL 2140L with grades of C or above. A field course stressing identification, classification and habitat of the vascular plants, particularly of the Piedmont, but also including the Coastal Plain and the mountains of North Carolina. Six hours a day for 9 days.

**BIOL 3231. Invertebrate Zoology. (4)** Prerequisite(s): Biology major or minor or permission of department; BIOL 2120, BIOL 2130, and BIOL 2140L with grades of C or above. Comparative invertebrate anatomy and physiology, as well as life histories and ecology of select taxonomic groups. Three lecture hours and one laboratory period of three hours a week.

**BIOL 3233. Vertebrate Zoology. (4)** Prerequisite(s): Biology major or minor or permission of department; BIOL 2120, BIOL 2130, and BIOL 2140L with grades of C or above. Taxonomy, anatomy, physiology, and life histories of vertebrates. Three lecture hours and one laboratory period of three hours a week.

**BIOL 3234. Field Entomology. (3)** Prerequisite(s): Biology major or minor or permission of department; BIOL 2120, BIOL 2130, and BIOL 2140L with grades of C or above. A field course stressing identification and ecology of insects of the Piedmont of North Carolina. Six hours a day for 9 days.

**BIOL 3235. Biology of Insects. (3)** Prerequisite(s): Biology major or minor or permission of department; BIOL 2120 and BIOL 2130 with grades of C or above. The anatomy, physiology, development, behavior, ecology, and medical and economic importance of insects.

**BIOL 3236. General Zoology. (3)** Prerequisite(s): Biology major or minor or permission of department; BIOL 2120 and BIOL 2130 with grades of C or above. The morphology, function, development, phylogeny, and ecology of the principal invertebrate and vertebrate types.

**BIOL 3236L. General Zoology Laboratory. (1)** Prerequisite(s): BIOL 2140L. Pre- or Corequisite(s): BIOL 3236. The accompanying lab to BIOL 3236. The morphology, function, development, phylogeny, and ecology of the principal invertebrate and vertebrate types. One laboratory period of three hours a week.

**BIOL 3244. Field Ecology. (3)** Prerequisite(s): Biology major or minor; BIOL 2120, BIOL 2130, and BIOL 2140L. Creates North Carolina naturalists by employing common field methods to explore the native flora and fauna. Introduction to modern field ecology by understanding its development from natural history. Class lectures teach the basics of a number of interdisciplinary fields within ecology. Field exercises offer a variety of sampling techniques, designs, and protocols to identify and study local plants and animals. Current literature is used to support these exercises.

**BIOL 3271. Human Body in Health and Disease. (3)** Prerequisite(s): BIOL 1110, BIOL 2120, or BIOL 2273 with grade of C or above; and Biology minor or permission of department. Introduction to the human body and its structural components and mechanisms that help the body maintain optimal working order. Explores the relationship between the body's structure (anatomy) and function (physiology), learning how the body works when it is healthy and what happens when it is affected by a disease. Not accepted toward the Biology major.

**BIOL 3272. Plant Physiology. (3)** Prerequisite(s): Biology major or minor or permission of department; BIOL 2120, BIOL 2130, BIOL 2140L, CHEM 1252, and CHEM 1252L with grades of C or above. Metabolic and physiological processes of plants and conditions which affect or regulate these processes.

**BIOL 3272L. Plant Physiology Laboratory. (1)** Prerequisite(s): BIOL 2140L and BIOL 3111L. Corequisite(s): BIOL 3272. The accompanying lab to BIOL 3272. Metabolic and physiological processes of plants and conditions which affect or regulate these processes. One laboratory period of three hours a week.

**BIOL 3273. Animal Physiology. (3)** Prerequisite(s): Biology major or minor or permission of department; BIOL 2120, BIOL 2130, CHEM 1252, and CHEM 1252L with grades of C or above. Fundamental control mechanisms that operate to maintain the homeostatic state.

**BIOL 3273L. Animal Physiology Laboratory. (1)** Prerequisite(s): BIOL 2140L with grade of C or above. Pre- or Corequisite(s): BIOL 3273. The accompanying lab to BIOL 3273. Fundamental control mechanisms that operate to maintain the homeostatic state. One laboratory period of three hours a week. Three contact hours.

**BIOL 3274. Scientific Writing. (3)** Prerequisite(s): Biology major or minor; BIOL 2120, BIOL 2130, and BIOL 2140L. An introduction to the process of scientific writing for Biology majors. Biology students are routinely required to produce a variety of written products, such as lab reports, research papers, and grant/research proposals. This course helps students gain proficiency in the written and oral communication of scientific works by using effective reasoning and interpretation skills. Additionally, it provides practical experience in experimental design, conducting scientific literature research, as well as drawing biological conclusions from published data and articulating those conclusions to an appropriate audience. The main goal of this course is to help build a foundation in scientific writing through a combination of in-class workshops and online activities in a hybrid format. *May be attempted a maximum of two times.*

**BIOL 3275. Animal Health. (3)** Prerequisite(s): BIOL 2130 with C or better; Must be enrolled in one of the following Fields of Study (Major, Minor): Biology (BIOL). A foundation for understanding the concepts and principles that underpin the entire spectrum of animal health. Areas of importance for this course are husbandry/management, disease prevention/treatment, nutrition (digestion and metabolism), genetics,

and different systems in animals along with associated common diseases.

**BIOL 3405. Internship in Biology. (1 to 3)** Prerequisite(s): Permission of department. A project-oriented, internship with a biological focus. Supervised by a faculty member in the Department of Biological Sciences. A UNC Charlotte faculty supervisor from the Department of Biological Sciences must be arranged before beginning the course. *May be repeated for credit up to two credit hours for the B.A. and three credit hours for the B.S.*

**BIOL 3500. Biology Cooperative Education Experience. (0)** Prerequisite(s): Approval by the department and the University Career Center. Required of students participating in the Cooperative Education Program during the semesters in which they are working. Participating students pay a course registration fee for transcript notation. Assignments must be arranged and approved in advance. The Cooperative Education Program is only open to undergraduate students; graduate level students are encouraged to contact their academic departments to inquire about academic or industrial internship options for credit. For more information, contact the University Career Center. *Course may be repeated. Graded on a Satisfactory/Unsatisfactory basis.*

**BIOL 3800. Tutorial in Biology. (1 to 4)** Prerequisite(s): Permission of department, minimum overall GPA of 2.8 and Biology GPA of 3.0. Enables Biology majors to engage in directed study in their fields of interest. Maximum credit toward major is one hour for B.A.; two hours for B.S. *May be repeated for credit.*

**BIOL 3900. Undergraduate Research. (1 to 3)** Prerequisite(s): Permission of department, minimum overall GPA of 2.8 and Biology GPA of 3.0. Enables biology majors to initiate research projects in their respective fields of interest. Maximum credit toward major: six hours for B.A.; nine hours for B.S. *May be repeated for credit with change of topic.* Minimum total of two credit hours of BIOL 3900 may count as one biology lab and a minimum total of four credit hours of BIOL 3900 may count for two biology labs. Maximum of two labs.

**BIOL 4000. Special Topics in Biology. (1 to 4)** Prerequisite(s): Varies with topic offered; Biology major or minor or permission of department. Special topics for advanced undergraduates. *May be repeated for credit with change of topic.* Lecture hours and laboratory hours vary with the courses taught.

**BIOL 4040. Stem Cells. (3)** Prerequisite(s): BIOL 3166 with grade of C or above; and Biology major or minor or permission of department. Current molecular genetics research in the broad field of stem cells. Discussion and interpretation of current research related to stem cell development, differentiation, regeneration, and molecular mechanisms of pluripotency.

**BIOL 4111. Evolution. (3)** Prerequisite(s): BIOL 3111 and BIOL 3166 with grades of C or above; and Biology major or minor or permission of department. Theories of evolution and forces, which affect gene frequencies.

**BIOL 4121. Biometry. (4)** Prerequisite(s): BIOL 2140L, BIOL 3166, and one STAT course with grades of C or above; and Biology major or minor or permission of department. Advanced biostatistics with design and analysis of experiments. Three lecture hours and one laboratory period of three hours a week.

**BIOL 4144. Advanced Ecology. (4)** Prerequisite(s): BIOL 2140L, BIOL 3144, and BIOL 3144L with grades of C or above; and Biology major or minor or permission of department. Energy flow, nutrient cycles, community structure, population growth, and regulation. Three lecture hours and one laboratory period of three hours a week.

**BIOL 4162. Advanced Biotechnology I. (3)** Prerequisite(s): BIOL 3111L and BIOL 3161 or BIOL 3166 with grades of C or above; and Biology major or minor or permission of department. Problem-based learning approach where students work in teams to develop solution strategies that use biotechnology to solve real-world problems. Three lecture hours per week.

**BIOL 4163. Advanced Biotechnology II. (3)** Prerequisite(s): BIOL 3161 or BIOL 3166 and BIOL 4162 with grade of C or above and permission of instructor; and Biology major or minor or permission of department. Students work in teams to implement solution strategies developed in BIOL 4162 that use biotechnology to solve real-world problems. One laboratory period and two lecture hours per week.

**BIOL 4164. Bacteriophage Discovery. (4)** Prerequisite(s): BIOL 2120, BIOL 2120L, BIOL 2130, BIOL 2130L; Instructor approval. Along with the international SEA-PHAGES (Science Education Alliance-Phage Hunters Advancing Genomics and Evolutionary Science) program, students complete the first component of the phage discovery and genomics platform: the isolation, purification, and amplification of new phages from environmental samples by using a specific bacterial host, coupled with electron microscopy and DNA isolation and analysis. The second component is the bioinformatic dissection of phage genomes using computational programs to identify genes, regulatory elements, and other genomic features. The second component occurs in a subsequent semester.

**BIOL 4165. Investigating Bacteriophage Genomics. (4)** Prerequisite(s): BIOL 2120, BIOL 2120L, BIOL 2130, BIOL 2130L. This course is part of the Howard Hughes Medical Institute (HHMI) SEA-PHAGES program. SEA PHAGES (Science Education Alliance-Phage Hunters Advancing Genomics and Evolutionary Science, (https://seaphages.org/) is a discovery-based undergraduate research course that begins with simple digging in the soil to find new viruses, but progresses through a variety of microbiology techniques and eventually to complex genome annotation and bioinformatic analyses.

**BIOL 4167. Medical Genetics. (3)** Prerequisite(s): BIOL 3111 and BIOL 3166 with grades of C or above; and Biology major or minor or permission of department. Various applications of genetics to human health, including studies of the inheritance of diseases in families, mapping of disease genes to specific locations on chromosomes, diagnosis and treatment of genetic disease, and genetic counseling. The major focus is on the molecular mechanisms through which genes cause diseases.

**BIOL 4168. Recombinant DNA Techniques. (4)** Prerequisite(s): BIOL 3111L, BIOL 3166, or CHEM 4165 with grade of C or above and permission of instructor; and Biology major or minor or permission of department. Modern molecular biological methods (such as DNA cloning, gel electrophoresis, nucleic acid hybridization, PCR, and DNA sequencing) data analysis and interpretation. Two lecture hour and two laboratory periods of three hours a week.

**BIOL 4171. Cell Physiology. (3)** Prerequisite(s): BIOL 3111 with grade of C or above; and Biology major or minor or permission of department. The fundamental physiochemical properties of cells.

**BIOL 4184. Plant Biotechnology. (3)** Prerequisite(s): BIOL 3166 with grade of C or above or permission of department; and Biology major or minor or permission of department. A laboratory-oriented course designed to integrate plant molecular biology, recombinant DNA technology, and plant cell and tissue culture. One lecture hour and two laboratory periods of three hours a week.

**BIOL 4199. Molecular Biology. (3)** Prerequisite(s): BIOL 3111, BIOL 3166, and CHEM 2131 with grades of C or above; and Biology major or minor or permission of department. Structural and functional interaction of nucleic acids and proteins in the replication, transcription, and translation of genetic material.

**BIOL 4233. Parasitology. (3)** Prerequisite(s): BIOL 3111 with grade of C or above; and Biology major or minor or permission of department. Morphology, life cycles, ecology, taxonomy, and medical and economic importance of parasites. Three lecture hours a week.

**BIOL 4235. Mammalogy. (4)** Prerequisite(s): BIOL 2140L and BIOL 3272 or BIOL 3273 with grade of C or above, or permission of instructor; and Biology major or minor or permission of department. Taxonomy, anatomy, physiology, and life histories of the mammals. Three lecture hours and one laboratory period of three hours a week.

**BIOL 4242. Biology of Birds. (3)** Prerequisite(s): BIOL 3144 with grade of C or above or permission of department; and Biology major or minor or permission of department. Overview of general avian biology, including taxonomy and anatomy, but concentrating on behavior, ecology, and conservation of birds. Focus on birds of the southeastern U.S.

**BIOL 4242L. Biology of Birds Laboratory. (1)** Corequisite(s): BIOL 4242; and Biology major or permission of department. Meets for one three-hour period per week. The laboratory and field portion of the Biology of Birds focuses on field identification and inventory techniques, with an introduction to anatomy. Binoculars are required.

**BIOL 4243. Animal Behavior. (3)** Prerequisite(s): BIOL 2120 and BIOL 2130 with grades of C or above; and Biology major or minor or permission of department. An ethological approach to how animals respond to their environment. Causation, development, and adaptive significance of behavior in social systems.

**BIOL 4244. Conservation Biology. (3)** Prerequisite(s): BIOL 3144 with grade of C or above; and Biology major or minor or permission of department. Conservation values, extinction rates, genetic diversity, demography, habitat fragmentation, reserve management, ecological restoration.

**BIOL 4244L. Conservation Biology Laboratory. (1)** Prerequisite(s): BIOL 2140L with grade of C or above; and Biology major or permission of department. Pre- or Corequisite(s): BIOL 4244. The accompanying lab to BIOL 4244. Conservation values, extinction rates, genetic diversity, demography, habitat fragmentation, reserve management, ecological restoration. One laboratory period of three hours a week plus field trips.

**BIOL 4245. Marine Biology. (3)** Prerequisite(s): BIOL 3111 with grade of C or above; and Biology major or minor or permission of department. Diversity and adaptations of marine biota, and ecological processes of marine ecosystems.

**BIOL 4250. Microbiology. (3)** Prerequisite(s): BIOL 3111 with grade of C or above; and Biology major or minor or permission of department. Morphology, physiology, pathogenicity, metabolism, and ecology of bacteria, viruses, protozoa, and fungi. Aquatic, dairy, and food microbiology.

**BIOL 4250L. Microbiology Laboratory. (1)** Prerequisite(s): BIOL 3111L with grade of C or above; and Biology major or permission of department. Pre- or Corequisite(s): BIOL 4250 with grade of C or above. One laboratory period of three hours a week. Attendance mandatory for safety training. Three contact hours.

**BIOL 4251. Immunology. (3)** Prerequisite(s): BIOL 3111 with grade of C or above; and Biology major or minor or permission of department. Cellular, molecular and genetic basis for immunity; physical chemistry of antigens and antibodies and their interactions; defense mechanisms.

**BIOL 4255. Bacterial Genetics. (3)** Prerequisite(s): BIOL 3166 with grade of C or above; and Biology major or minor or permission of department. Regulation of gene expression in bacterial systems. Bacteriophage genetics. DNA transfer in bacteria.

**BIOL 4256. Pathogenic Bacteriology. (3)** Prerequisite(s): BIOL 4250 with grade of C or above; and Biology major or minor or permission of department. Cellular and molecular interactions of mammalian hosts with prokaryotic parasites.

**BIOL 4256L. Pathogenic Bacteriology Laboratory. (1)** Prerequisite(s): BIOL 4250L with grade of C or above; and Biology major or permission of department. Pre- or Corequisite(s): BIOL 4256. The accompanying lab to BIOL 4256. Cellular and molecular interactions of mammalian hosts with prokaryotic parasites. One laboratory period of three hours a week.

**BIOL 4257. Microbial Physiology and Metabolism. (3)** Prerequisite(s): BIOL 4250 with grade of C or above; and Biology major or minor or permission of department. Lectures in microbial metabolism and physiology, including such topics as bacterial nutrition, transport mechanisms, catabolism and energy production, biosynthesis, global regulation of gene expression. Three one-hour lectures per week.

**BIOL 4257L. Microbial Physiology and Metabolism Lab. (1)** Pre- or Corequisite(s): BIOL 4257; and Biology major or permission of department. Laboratory exercises covering such topics in general microbiology as characterization of microbial growth, transport, preparation and use of cell-free systems, isolation and electrophoresis of periplasmic proteins, isolation and characterization of membrane lipids, and the polymerase chain reaction. One three-hour lab per week.

**BIOL 4258. Epidemics and Plagues. (3)** Prerequisite(s): BIOL 3111 with grade of C or above, or permission of instructor; and Biology major or minor or permission of department. A study of the history, modeling, epidemiology, environmental, and behavioral changes that contributed to the development of selected epidemics and plagues which have dramatically affected plants, agricultural animals, and humans. Hybrid course with class meetings and online assignments.

**BIOL 4259. Virology. (3)** Prerequisite(s): BIOL 3111 with grade of C or above; and Biology major or minor or permission of department. Focus on molecular biology, evolution, and pathogenesis of clinically relevant human and animal viruses. Additional topics include: advances in virus-based gene therapy, vaccines, and anticancer agents; viruses as potential bioterrorism threats; bacteriophages and plant viruses; unusual virus-like agents.

**BIOL 4260. Population Genetics. (3)** Prerequisite(s): BIOL 3166 and STAT 1221 with grades of C or above; and Biology major or minor or permission of department. The genetics of qualitative and quantitative traits in populations, including an assessment of the factors affecting the extent and pattern of the genetic variation in these traits.

**BIOL 4261. Genome Stability and Human Disease. (3)** Prerequisite(s): BIOL 2120, BIOL 2130, and permission of department. Cross-listed Course(s): BIOL 5261. DNA damage arises from environmental and endogenous insults, and a variety of specialized cellular mechanisms enable the efficient and accurate repair of lesions. When repair processes are impaired in humans, substantial developmental defects and predisposition to cancer may result. This course introduces students to the principal DNA repair pathways and the diseases induced by inherited repair defects, with an emphasis on interpreting primary research. The aim of this course is to build on students' basic knowledge of biological principles to provide in-depth knowledge regarding the relationship between DNA repair dysfunction and human genetic diseases, including certain cancers.

**BIOL 4265. Drugs: Molecular and Cellular Mechanisms. (3)** Prerequisite(s): BIOL 3111 with grade of C or above, or permission of instructor; and Biology major or minor or permission of department. A detailed focus on representative drugs and their target cells and organs to understand mechanisms of action at a molecular and cellular level. Drug discovery, approval, and economics are also discussed.

**BIOL 4272. Comparative Animal Physiology. (3)** Prerequisite(s): BIOL 2120 and BIOL 2130 with grades of C or above; and Biology major or minor or permission of department. Pre- or Corequisite(s): BIOL 3111. Fundamental mechanisms and evolutionary diversity of physiological adaptations of animals.

**BIOL 4274. Environmental Toxicology and Health. (3)** Prerequisite(s): BIOL 2120 and BIOL 2130 with grades of C or above; and Biology major or minor or permission of department. Pre- or Corequisite(s): BIOL 3111. Molecular, physiological and ecological effects of major environmental pollutants.

**BIOL 4276. Cardiovascular Physiology. (3)** Prerequisite(s): BIOL 3273 with grade of C or above; and Biology major or minor or permission of department. Physiology of the cardiovascular system, especially mammalian with emphasis on the experimental basis for our current knowledge.

**BIOL 4277. Endocrinology. (3)** Prerequisite(s): BIOL 3273 with grade of C or above; and Biology major or minor or permission of department. Endocrine glands and their physiological roles in metabolism, growth and reproduction.

**BIOL 4279. Neurobiology. (3)** Prerequisite(s): BIOL 3111 with grade of C or above, or permission of instructor; and Biology major or minor or permission of department. The molecular and cellular processes of neuronal function in the human central and peripheral nervous systems.

**BIOL 4279L. Neurobiology Laboratory. (1)** Prerequisite(s): Biology major or permission of department Pre- or Corequisite(s): BIOL 4279 with grade of C or above. The accompanying lab to BIOL 4279. The molecular and cellular processes of neuronal function in the human central and peripheral nervous systems. One laboratory period of three hours a week.

**BIOL 4283. Developmental Biology. (3)** Cross-listed Course(s): BIOL 5283. Prerequisite(s): BIOL 3111 with grade of C or above; and Biology major or minor or permission of department. Developmental processes occurring chiefly during gametogenesis, fertilization, early embryogenesis, and organogenesis.

**BIOL 4284. Eukaryotic Microbiology. (4)** Cross-listed Course(s): BIOL 5284. Prerequisite(s): BIOL 3111 and BIOL 3166 with grades of C or above, or permission of instructor; and Biology major or minor, or permission of department. The biology of free-living, parasitic, and pathogenic eukaryotic microorganisms with emphasis on systematics, cell physiology, ecology, and molecular biology of species contributing to global environmental cycles, animal and crop disease, death, and economic loss. Three hours of lecture and one three-hour laboratory period per week.

**BIOL 4292. Advances in Immunology. (3)** Prerequisite(s): BIOL 4251 with grade of C or above; and Biology major or minor or permission of department. Current topics in immunology with particular emphasis upon the genetic systems and molecular mechanisms underlying immune reactions.

**BIOL 4293. Comparative Vertebrate Anatomy. (4)** Prerequisite(s): BIOL 2140L, BIOL 3111, and BIOL 3111L with grades of C or above; and Biology major or minor or permission of department. Comparison of selected anatomical systems across vertebrates, with emphasis on evolution and functional analyses. Three hours of lecture and one laboratory period of three hours per week.

**BIOL 4300. Life: How We Got Here. (3)** Prerequisite(s): BIOL 3111 and BIOL 3166. A broad examination of the evolution of life - from abiogenesis to the evolution of replicators, cells, individuals, and societies, with a primary focus of understanding the major transitions in evolution and biological complexity. Topics relating to the future of life - synthetic biology, AI, and climate change - are also considered.

**BIOL 4405. Internship/Laboratory Research. (1 to 3)** Prerequisite(s): Biology major or Biotechnology minor, permission of instructor, and permission of the Biotechnology Program director. A biotechnology-oriented internship with either an organization or within a biotechnology-related laboratory within the Departments of Biological Sciences, Civil and Environmental Engineering, or Chemistry.

**BIOL 4600. Senior Seminar. (2)** Prerequisite(s): Biology major, Senior standing, BIOL 3111, BIOL 3144, BIOL 3166, and either BIOL 3272 or BIOL 3273. Student presentation of oral and written reports from pertinent biological literature. Exit exam for Biology majors is administered.

**BIOL 4601. Honors Seminar. (2)** Prerequisite(s): Biology major or permission of department. Open by invitation to Juniors. Exploration of the nature of science, ethics in science, critical analysis, hypothesis testing and statistical analysis, peer review, and research skills. Students analyze professional research papers, present their analyses orally, select an Honors Advisor, and write a research proposal. Exit exam for Biology majors will be administered. Two lecture hours with occasional additional hours to attend special lectures and seminars.

**BIOL 4700. Honors Research I. (3)** Prerequisite(s): BIOL 4601 with grade of C or above; Senior standing; and Biology major or permission of department. Independent Honors project: proposal, and research. By invitation.

**BIOL 4701. Honors Research II. (3)** Prerequisite(s): BIOL 4700; approval of a proposal through the Honors College Application to Candidacy process the semester prior to taking the course; and Biology major or permission of department. Independent Honors project, including thesis preparation and presentation of results. May be substituted for BIOL 4600 and for one lab.

## Business Law (BLAW)

**BLAW 3150. Business Law I. (3)** Prerequisite(s): INFO 2130; Junior or Senior standing, business major, or permission of department. A study of the legal setting of business and its relationship to the business firm. Topics include: the nature of law and the court system, criminal and civil procedure, alternative dispute resolution, constitutional authority to regulate business, business ethics, criminal law, torts, contracts, the law of sales, intellectual property, and cyberlaw.

**BLAW 3250. Business Law II. (3)** Prerequisite(s): BLAW 3150; Junior or Senior standing, business major, or permission of department. The study of the Uniform Commercial Code. Topics include: commercial paper, bank deposits and collections, letters of credit, documents of title, secured transactions, creditors' rights and bankruptcy, agency law, employment law ---and government regulation of business, business organizations and securities regulation, real and personal property, insurance, wills, trusts, and estates.

## Business Analytics (BUSA)

**BUSA 2130. Business Computing. (3)** Prerequisite(s): ITCS 2116 with a grade C or above, or permission of department. Application of spreadsheet software to solve business problems. An introduction to basic and advanced Excel functionalities. Fundamental programming methods for Excel VBA to automate tasks to improve productivity.

**BUSA 3090. Topics in Business Analytics. (2)** Prerequisite(s): Permission of advisor. Exploration of topics from areas of business analytics. Specific topics covered serve as the tool for exploring specialized graduate programs and examining career options.

**BUSA 3120. Financial Management with a Quantitative Focus. (3)** Prerequisite(s): ACCT 2121, ACCT 2122, ECON 2101, ECON 2102, ITCS 2116, MATH 1242, and STAT 1220 with grades of C or above; Business major; and Junior or Senior standing; or permission of department. Principles and problems of financial aspects of managing capital structure, least-cost asset management, planning and control. Computer application is included where appropriate, and students are expected to use calculus and statistics.

**BUSA 3122. Investments with a Quantitative Focus. (3)** Prerequisite(s): BUSA 3120 with a grade of C or above, or permission of department. Major topics are security analysis and portfolio management. The viewpoint is that of the investment professionals who are concerned with the evaluation of individual securities and management of security portfolios. Students are expected to use calculus and statistics.

**BUSA 3124. Intermediate Microeconomic and Macroeconomic Theory. (3)** Prerequisite(s): ECON 2101, ECON 2102, and MATH 1242 with grades of C or above or permission of department. Microeconomic analysis with emphasis on consumer theory and the theory of production. Resource allocation and the determination of optimum output and pricing by a firm operating under various market structures. Distribution and welfare theories. Macroeconomic analysis of the level and growth of national income, production, unemployment, the balance of trade, interest rates, and price levels. Fiscal and monetary policies are considered.

**BUSA 3233. Data and Information Management. (3)** Prerequisite(s): BUSA 2130 and ITCS 2116 with grades of C or above; and Junior or Senior standing or permission of department. A study of the design and implementation of databases and enterprise data warehouses for business applications. Exploration of basic concepts of database and data warehouse design, the use of SQL to create and manipulate corporate databases, and the exploration of warehouse management software.

**BUSA 3400. Business Analytics Internship. (3)** Prerequisite(s): Business Analytics major in good standing; Junior or Senior standing; and permission of instructor. Provides a meaningful work experience in the field of business analytics. Requires a minimum of 150 hours of supervised employment, 50 hours of work per credit hour. Students are responsible for securing internship and completing internship application and approval process prior to registering for the course. Internship must be approved by instructor. Application process and course registration must be completed prior to beginning internship. All proposals are subject to departmental approval. Students may not earn internship credit for work at a current employer. May be used to meet requirements of a major elective, up to a maximum of three credit hours. May not be repeated or taken for credit at the same time or following any other internship for credit.

## Business (BUSN)

**BUSN 1100. Freshman Honors Seminar. (1)** Prerequisite(s): Freshman standing in the Business Honors Program. A study of selected topics that impact the potential for success of business honors students in school and beyond. Topics include: University life, corporate and community interaction, career selection, keys to success, and practitioner interaction, among others.

**BUSN 1101. Introduction to Business and Professional Development. (3)** Prerequisite(s): College of Business major and Freshman standing. Fundamentals of business, including accounting, business analytics, economics, finance, international business, management, management information systems, marketing, and operations and supply chain management. Other topics addressed relate to preparing students for success and include goal setting, understanding the inquiry process, and cultural awareness. Based on hours earned when admitted to the College of Business, this course may not be required.

**BUSN 1701. Practicum I: Corporate Citizenship. (1)** Prerequisite(s): Admission to Business Honors Program (BHP). An experiential learning course which examines the relationship between corporate citizenship and service to one's community. Lectures, readings, and seminars explore the historical, ethical, and economic foundations of service in business, highlighting issues such as corporate giving, environmental impact of business decisions, and industry professionalism. Prepare for 40 hours non-profit service.

**BUSN 2000. Topics in Business and Economics. (1 to 3)** Current topics from business and economics. *May be repeated for credit with change of topic and permission of department.*

**BUSN 2100. Business Professional Development. (1)** Prerequisite(s): College of Business major. A study of selected topics related to preparing business students for academic and career success. Topics include: goal setting, understanding the inquiry process, and cultural awareness. This course is recommended for business students in their first semester at UNC Charlotte who are not eligible for or who have prior credit for BUSN 1100.

**BUSN 2350. Survey of Business. (3)** Prerequisite(s): Global Business Foundations Abroad Minor. A survey of foundational business concepts examined through a global lens. Guest speakers, professional site visits, and cultural immersion experiences abroad reinforce student understanding of fundamental business disciplines.

**BUSN 2360. Cross Cultural Management. (3)** Prerequisite(s): Global Business Foundations Abroad Minor. An introduction to the principles, challenges, and opportunities of managing across cultures in a globalized world. Students will explore cultural frameworks, develop cultural intelligence (CQ), and apply cross-cultural concepts to real organizational scenarios. The course emphasizes experiential learning, reflection, and practical application. Guest speakers, professional site visits, and cultural immersion experiences abroad complement the exploration of organizational management in a global context.

**BUSN 2370. Foundations of Marketing. (3)** Prerequisite(s): Global Business Foundations Abroad Minor. A survey of fundamental marketing concepts examined through a global and cross-cultural lens. Emphasis is placed on foundational marketing concepts and theories. Guest speakers, professional site visits, and cultural immersion experiences abroad complement the exploration of foundational marketing concepts.

**BUSN 2380. Foundations of Finance and Accounting. (3)** Prerequisite(s): Global Business Foundations Abroad Minor. A survey of fundamental finance and accounting concepts examined through a global lens. Emphasis is placed on understanding the fundamental principles of accounting and finance and how those principles apply to the global economy. Guest speakers, professional site visits, and cultural immersion experiences abroad complement the exploration of foundational concepts.

**BUSN 2390. Essentials of Business Decision Making. (3)** Prerequisite(s): Global Business Foundations Abroad Minor. An introduction to business decision making that integrates economic principles with foundational concepts in operations management and management information systems. Students learn to apply the economist's toolkit and basic process thinking, information flows, and quantitative measures to make better business and personal decisions. Guest speakers, professional site visits, and cultural immersion experiences abroad bring these principles to life.

**BUSN 2701. Practicum II: Professionalism and Service Seminar. (1)** Prerequisite(s): Admission to Business Honors Program (BHP). An examination of acceptable industry norms, values, and ethics in the workplace. Simultaneously students complete a 40 hour service project with an approved non-profit organization.

**BUSN 2702. Practicum III: Leadership and Group Dynamics. (1)** Prerequisite(s): Admission to Business Honors Program (BHP). Students plan and implement a group service project using the fundamentals of communication, planning, organizing, financing, and marketing. Concurrently, students explore and develop their leadership profile by engaging in thoughtful discussions, reflection, and exercises.

**BUSN 3400. Business Honors Internship. (0)** Prerequisite(s): Sophomore, Junior, or Senior in good Business Honors Program standing, and permission of instructor. The internship requires 150 hours of supervised employment that provides a meaningful work experience in any business field. An internship proposal form must be completed and approved prior to registration and the commencement of the work experience. May be used to meet requirements of a major elective, up to a maximum of three credit hours. *Graded on a Pass/No Credit basis. May not be repeated or taken for credit at the same time or following any other internship for credit.*

**BUSN 3701. Practicum IV: Building Networks for Success. (1)** Prerequisite(s): BUSN 2701. Exposes Business Honors students to formal and informal networks in organizations. Topics include: mentor relationships, power, and politics. Students prepare for their career success by engaging with speakers from the business community, case analyses, a mentor relationship, and planning and executing a networking event.

**BUSN 4701. Business Honors Thesis. (3)** Prerequisite(s): Permission of the Director of Undergraduate Special Programs and approval of a thesis proposal through the Honors College Application to Candidacy process the semester prior to taking the course. Honors project directed by Business Honors committee or assigned faculty member. One faculty contact hour per week and independent research.

# Capitalism Studies (CAPI)

**CAPI 1501. Global Social Science: Capitalism in Global Context. (3)** This Global Theme course uses the methods and insights of the social sciences to explore the central question of what it means to be a citizen of the world. Through the study of one or more different peoples, societies or cultures across the globe, students will be able to better

understand themselves as part of a complex, interconnected world. This course provides an analysis of capitalism in its global and transnational context. *May not be taken for credit and for a grade if credit has been received for CAPI 2100.*

**CAPI 1512. Local Arts/Humanities: Capitalism in the USA and Beyond. (3)** Cross-listed Course(s): HIST 1575. An introduction to capitalism as an economic, political, cultural, and social system, with emphasis on the United States. This Local Theme course uses the methods and insights of the arts and humanities to explore the central question of what it means to be a member of a "local" community. Through the study of the experiences of different peoples, societies, cultural traditions, and modes of expression in communities at the city, regional, or national level, students will be able to better understand the complexity and diversity of the society in which we live.

**CAPI 1575. Capitalism and Democracy. (3)** An examination of issues or concepts related to American democracy, with attention to key historical documents including but not limited to: the Declaration of Independence, the U.S. Constitution, the Federalist Papers, the Gettysburg Address, the Emancipation Proclamation, and Dr. Martin Luther King Jr.'s Letter from Birmingham Jail. Using a variety of approaches, this course will provide the historical context and deep critical analysis necessary to help students understand the importance of these founding documents to the American democratic journey. The course will explain the founding ideas of American capitalism, how capitalism helped to end undemocratic forms of government, and how capitalism created a new contradiction in American democracy through the rise of an unelected capitalist class. This course explores where and when capitalism furthered the goals of American democracy, and where and when capitalism constrained those goals. Students will read documents from government officials, economists, workers, activists, and intellectuals, all of whom tried to further the goals of capitalism or who tried to constrain capitalism in order to make America more democratic. Students will explore periods where democracy thrived under capitalism, and periods when democratic institutions recoiled due to the power and influence of capital. *Fulfills the General Education Foundations of American Democracy requirement.*

**CAPI 2050. Topics in Capitalism Studies. (3)** An introductory-level approach to the interdisciplinary field of Capitalism Studies, focusing on a special topic. *May be repeated for credit with change in topic.*

**CAPI 2100. Introduction to Capitalism Studies. (3)** An overview of the history and development of capitalism, since its rise and proliferation across the globe, with special attention to the last 300 years. The how and why capitalism changed during these centuries and the impacts of these changes on global society are explored. Students develop a richer understanding of the complex web of causal forces that link the economy, society, and culture. Emphasis is placed that capitalism is not natural or trans-historical, but rather is a social process, with a history of change over time. *May not be taken for credit and for a grade if credit has been received for CAPI 1501.*

**CAPI 3050. Topics in Capitalism Studies. (3)** Cross-listed Course(s): HIST 3272. An interdisciplinary perspective on a specific topic, related to the field of Capitalism Studies. *May be repeated for credit with change in topic.*

**CAPI 3400. Capitalism Studies Internship. (3)** Prerequisite(s): Permission of department. Faculty-supervised field and/or research experience in a cooperating business, government entity, or community organization, with the approval of the Director of Capitalism Studies. Contents of internship based upon a contractual agreement among the student, department, and business, government entity, or community organization.

**CAPI 3800. Independent Study. (3)** Students pursue individual investigations, supervised by the instructor, of subjects directly related to Capitalism Studies.

**CAPI 4050. Capstone in Capitalism Studies. (3)** As their capstone project in Capitalism Studies, students explore, in depth, specific subjects in the broader field of Capitalism Studies, using short original research projects. *May be repeated for credit with change in topic.*

# Civil and Environmental Engineering (CEGR)

**CEGR 2090. Special Topics in Civil and Environmental Engineering. (1 to 3).** Prerequisite(s): CEGR major. The special topics covered in each offering of the course serve to advance knowledge at the sophomore level. The content is determined by the instructor and number of credit hours. *May be repeated for credit with change of topic.*

**CEGR 2101. Civil Engineering Drawing. (2)** Prerequisite(s): Civil Engineering major or Environmental Engineering major; ENGR 1303 with a grade of C or above. Introduction to engineering drawing in the environmental, geotechnical, transportation, and structural sub-disciplines of civil engineering, utilizing Autodesk Civil 3D. One hour of lecture and one three-hour laboratory per week.

**CEGR 2102. Engineering Economic Analysis. (3)** Prerequisite(s): ENGR 1302 with grade of C or above, and Civil Engineering or Environmental Engineering major. Economic analysis of engineering solutions; present and annual worth analysis; cost benefit analysis; internal rate of return analysis; bonds and cost estimating. Three hours per week.

**CEGR 2103. Surveying and Technical Drawing. (3)** Prerequisite(s): ENGR 1202 with a grade of C or above, and Civil Engineering or Environmental Engineering major. Elements of plane surveying and technical drawing, including taping, use of level, total station, GPS, topographical surveying, mapping, error adjustment, area and volume computations, sketching, principles of Mechanical drawing, and computer aided drawing (CAD). Three hours of lecture and one laboratory period of three hours each week.

**CEGR 2104. Surveying and Site Design. (3)** Prerequisite(s): ENGR 1202 with grade of C or above, and Engineering major or minor. Elements of plane surveying, including taping, use of level, total station, and GPS; topographical surveying and mapping; error adjustment; area and volume computations; site development; computer applications. One hour of lecture and 3 hours of field work for four weeks: three hours of lecture.

**CEGR 2154. Design Project Lab. (2)** Prerequisite(s): ENGR 1300 and CEGR 2102 both with grade of C or above; and Civil Engineering or Environmental Engineering major. Problem definition, evaluation of design alternatives, design concepts, conceptual design. Students work

together in teams to find, present, and defend their solutions to real world civil engineering problems.

**CEGR 3090. Special Topics in Civil Engineering. (1 to 4)** Prerequisite(s): Permission of CEE Advisor and Engineering major or minor. Examination of specific new areas emerging in the various fields of civil engineering based upon and synthesizing knowledge students have gained from engineering science, mathematics, and physical science stems of the core curriculum. *May be repeated for credit up to 6 credits.*

**CEGR 3111. Construction Engineering. (3)** Prerequisite(s): CEGR 3122, CEGR 3278, and CEGR 3255 or CEGR 3256 all with grades of C or above; and Engineering major or minor. The principles and techniques of engineering construction projects from the conceptual phase, through design and construction, to completion and close-out are presented. Students develop the analytical skills and awareness necessary on the design engineering side of construction projects. Topics include: project initiation, estimating, budgeting, allocation of resources, construction equipment, formwork and bracing, temporary structures, erection and assembly methods, application of PCI, ASCE, and AASHTO codes, and value engineering.

**CEGR 3122. Structural Analysis. (3)** Prerequisite(s): MATH 2171 and MEGR 2144 with grades of C or above; Junior or Senior standing; and Civil Engineering major. Analysis of statically determinate and indeterminate beams, trusses and frames to include shear and moment diagrams, rough deflected shapes and deflections; influence lines and criteria for moving loads; indeterminate analyses to include methods of consistent deflection, slope deflection, and moment distribution.

**CEGR 3141. Introduction to Environmental Engineering. (3)** Prerequisite(s): MATH 2171, CHEM 1251, CHEM 1251L, and MEGR 2141 with grades of C or above; Civil Engineering or Environmental Engineering major. Environmental engineering concepts, including stream pollution analysis, water and wastewater treatment processes; solid and hazardous waste management practices; pollution problems and controls; mass balance analyses, and review of pertinent legislation.

**CEGR 3143. Hydraulics and Hydrology. (3)** Prerequisite(s): MATH 2171 and MEGR 2141 with grades of C or above; Civil Engineering or Environmental Engineering major. Fluid properties, pressure, closed-conduit flow, pipe network, pumps, open channel flow, weirs, orifices, flumes; precipitation, runoff, groundwater flow, stream flow, flow measurement.

**CEGR 3153. Transportation Laboratory. (2)** Pre- or Corequisite(s): CEGR 3161 with grade of C or above, and Civil Engineering major. Design of transportation systems, including highways, airports, pipelines, and mass transit; route layout, geometric design and earthwork calculations; computer-aided system simulation and evaluation. Technical report writing and evaluation of components of written technical communication. One and a half hours of lecture and three hours of laboratory per week.

**CEGR 3155. Environmental Laboratory. (2)** Prerequisite(s): CHEM 1251 and CHEM 1251L with grades of C or above, and Civil Engineering or Environmental Engineering major. Pre- or Corequisite(s): CEGR 3141 with grade of C or above. Laboratory problems in environmental engineering. Emphasis on analysis and presentation of results as well as on the significance of results as they affect theory and/or practice. Technical report writing and evaluation of different forms of written communication. One and a half hours of lecture and three hours of laboratory per week.

**CEGR 3161. Transportation Engineering I. (3)** Prerequisite(s): MATH 2241, CEGR 2102, MEGR 2141 and CEGR 2101 or CEGR 2103 all with grades of C or above; Junior or Senior standing; and Civil Engineering major. Analysis of transportation facilities; planning, location, economic considerations, safety analysis, and Intelligent Transportation components, with special emphasis on land transportation.

**CEGR 3201. Systems and Design. (3)** Prerequisite(s): Civil Engineering major, Senior standing, and permission of instructor. Systems engineering techniques applied to civil engineering problems emphasizing methodological considerations, evaluating alternatives and developing engineering plans carried out by small groups of students.

**CEGR 3202. Systems and Design II. (4)** Prerequisite(s): CEGR 3201 in immediate preceding semester; and Engineering major or minor. Continuation of CEGR 3201. Creatively investigate the produce alternative solutions for a comprehensive engineering project resulting in written and verbal class presentations. One hour of lecture and three hours of laboratory per week.

**CEGR 3221. Structural Steel Design I. (3)** Prerequisite(s): CEGR 3122 and CEGR 3255 or CEGR 3256, all with grades of C or above; and Engineering major or minor. Analysis and design of structural steel components with emphasis on theories necessary for a thorough understanding of the design procedure. Design philosophies and types of steel structures. Columns, tension members and laterally supported beams are considered. General Flexural theory, including bending of unsymmetrical sections. Current AISC Specifications used.

**CEGR 3225. Reinforced Concrete Design I. (3)** Prerequisite(s): CEGR 3122 and CEGR 3255 or CEGR 3256, all with grades of C or above; and Engineering major or minor. Analysis and design of reinforced concrete components with emphasis on fundamental theories. Mechanics and behavior of reinforced concrete. Flexural members to include singly and doubly-reinforced beams of various cross sections (rectangular, T-beams, joists, one-way slabs, and others). Shear in beams and columns. Short columns to include uniaxial and biaxial bending. Construction of short column interaction diagrams. Introduction to footings. Current ACI Specifications.

**CEGR 3231. Land Development Engineering Fundamentals. (3)** Prerequisite(s): CEGR 3161 with grade of C or above, and Engineering major or minor. Analysis of land development industry practices and basic business principals. Analyze land forms for implementation of practical engineering solutions based on social, economic and environmental factors. Analyze and design infrastructure planning of residential and non-residential land development projects.

**CEGR 3233. Land Development Engineering Studio. (3)** Prerequisite(s): CEGR 3161 with grade of C or above, and Engineering major or minor. Conduct and prepare a site analysis to determine the best use for raw land. Site analysis includes determination of infrastructure constraints, understanding government regulations and how they apply to the development of the site and preparing a conceptual plan for cost

determination and feasibility. Use CAD for preparation of conceptual plans and for presenting ideas.

**CEGR 3235. Land Development Engineering – Advanced Site Analysis. (3)** Prerequisite(s): CEGR 3153, CEGR 3161 with grade of C or above, and Engineering major or minor. Site assessment of land to determine infrastructure needs. Design cost effective infrastructure for residential and commercial developments. Analyze government regulations to determine side design criteria. Prepare a design for each of the major infrastructure components (roads, stormwater, sanitary sewer and water). Prepare plans in CAD for presentation of design alternatives and solutions.

**CEGR 3255. Structural Materials I Laboratory. (2)** Prerequisite(s): MEGR 2141 with grade of C or above, and Civil Engineering major. Pre- or Corequisite(s): MEGR 2144 with grade of C or above. Composition, properties, and testing of: wood, natural and artificial aggregates, bitumins, portland cement concrete, pozzolans, and structural metals. Experiments in solid mechanics. Data analysis, presentation, and report writing. One and a half hours of lecture and three hours of laboratory per week.

**CEGR 3256. Structural Materials Laboratory. (1)** Prerequisite(s): MEGR 2141 with a grade of C or above; Civil Engineering major. Pre- or Co-requisite Course(s): MEGR 2144 with a grade of C or above. Composition, properties, and testing of: wood, natural and artificial aggregates, bitumins, portland cement concrete, pozzolans, and structural metals. Experiments in solid mechanics. Data analysis, presentation, and memo writing. One hour of lecture and one and a half hours of laboratory per week.

**CEGR 3258. Geotechnical Laboratory. (2)** Pre- or Corequisite(s): CEGR 3278 with grade of C or above, and Civil Engineering major. Test to determine engineering properties of soils; consistency, permeability, shear strength, and consolidation. Data analysis, presentation, and report writing. One and a half hours of lecture and three hours of laboratory per week.

**CEGRE 3259. Geotechnical Laboratory. (1)** Prerequisite(s): Civil Engineering major. Pre- or Co-requisite Course(s): CEGR 3278 with a grade of C or above. Test to determine engineering properties of soils; consistency, permeability, shear strength, and consolidation. Data analysis, presentation, and report writing. One hour of lecture and three hours of laboratory per week.

**CEGR 3278. Geotechnical Engineering. (3)** Prerequisite(s): MATH 2171 and MEGR 2144 with grades of C or above; and Civil Engineering major. Soil origin, formation, composition, and classification; permeability; seepage; soil mechanics principles, including stresses, shear strength, and consolidation; foundations, retaining structures, and slope stability. Integration of design and technical reporting.

**CEGR 3695. Civil Engineering Cooperative Education Seminar. (1)** Prerequisite(s): Engineering major or minor Required of co-op students following each work semester. Presentation of engineering reports on work done prior semester. *May be repeated for credit; three (3) credit hours maximum.*

**CEGR 3890. Individualized Study. (1 to 3)** Prerequisite(s): Permission of department. Supervised individual study within an area of a student's particular interest which is beyond the scope of existing courses. *May be repeated for credit up to 3 credit hours.*

**CEGR 3891. Energy Infrastructure Individualized Study. (3)** Prerequisite(s): Permission of department; Civil Engineering major, Energy Infrastructure Concentration. Supervised individual study within the area of Energy Infrastructure which is beyond the scope of existing courses.

**CEGR 3990. Undergraduate Research in Civil Engineering. (1 to 4)** Prerequisite(s): Permission of CEE Advisor and Engineering major or minor. Independent study of a theoretical and/or experimental problem in a specialized area of Civil Engineering. *May be repeated for credit up to 6 credit hours.*

**CEGR 4090. Special Topics in Civil Engineering. (1 to 4)** Permission of CEE Advisor and Engineering major or minor. Study of specific new areas emerging in the various fields of civil engineering. *May be repeated for credit.*

**CEGR 4108. Finite Element Analysis and Applications. (3)** Prerequisite(s): CEGR 4224 with grade of B or above, and Engineering major or minor. Finite element method and its application to engineering problems. Application of displacement method to plane stress, plane strain, plate bending and axisymmetrical bodies. Topics include: dynamics, fluid mechanics, and structural mechanics.

**CEGR 4122. Power Plant Design. (3)** Cross-listed Course(s): CEGR 5122. Prerequisite(s): CEGR 2102, CEGR 3122, and CEGR 3278, all with grades of C or above. Coverage of basic aspects of power generation, including fossil fuel, nuclear, gas, bio, hydro, solar, and wind; analysis and design of infrastructure components and systems in energy production and distribution facilities with a focus on structural and geotechnical systems; history of energy and power; key governing codes, policies and/or regulations for energy facilities; economic and management comparisons of energy alternatives; quality assurance requirements; layouts of power plant sites.

**CEGR 4126. Codes, Loads, and Nodes. (3)** Prerequisite(s): CEGR 3122 with a grade B or above; and Engineering major or minor. Building systems and components; code requirements according to the latest ASCE Standard 7 pertaining to buildings and other structures; gravity load analysis including dead, live, roof live and snow loads; lateral load analysis focusing on wind and seismic forces, and applied to the main lateral load resisting systems; software applications using the SAP2000 or similar tool, with 2-D and 3-D models loaded with gravity and lateral loads.

**CEGR 4128. Matrix Methods of Structural Analysis. (3)** Prerequisite(s): CEGR 4224 with grade of B or above; and Engineering major or minor. Derivation of the basic equations governing linear structural systems. Application of stiffness and flexibility methods of trusses and frames. Solution techniques utilizing digital computer.

**CEGR 4142. Water Treatment Engineering. (3)** Prerequisite(s): CEGR 3141 with grade of C or above, or permission of CEE Advisor; and Civil Engineering or Environmental Engineering major. Analysis and design of water and wastewater treatment processes including physical, chemical and biological treatment. Computer-aided design of treatment systems.

**CEGR 4144. Engineering Hydrology. (3)** Prerequisite(s): CEGR 3143 with grade of C or above, and Civil Engineering or Environmental Engineering major. The quantitative study of the various components of the water cycle, including precipitation, runoff, ground water flow, evaporation and transpiration, steam flow. Hydrograph analysis, flood routing, frequency and duration, reservoir design, computer applications.

**CEGR 4145. Groundwater Resources Engineering. (3)** Prerequisite(s): CEGR 3143 with grade of C or above, and Civil Engineering or Environmental Engineering major. Overview of hydrological cycle and principles of saturated and unsaturated subsurface flow. Aquifer types and well hydraulics. Field methods for evaluating hydraulic conductivity. Introduction to contaminant fate and transport. Applications of groundwater modeling.

**CEGR 4146. Advanced Engineering Hydraulics. (3)** Prerequisite(s): CEGR 3143 with grade of C or above, or permission of CEE Advisor; and Civil Engineering or Environmental Engineering major. Problems of liquids as applied in civil engineering; open channel flow; dams and spillways; water power; river flow and backwater curves; pipe networks, fire flow, sewage collection, groundwater, computer applications.

**CEGR 4147. Stormwater Management. (3)** Prerequisite(s): CEGR 3141 and CEGR 3143 with grades of C or above, and Engineering major or minor. Introduction to the impacts and water quality parameters due to urbanization. Develop a numerical model to analyze water stormwater impacts and evaluate different mitigation methods. Understand and utilize the guiding principles of low impact design (LID) and evaluate the available BMPs and understand their limitations.

**CEGR 4149. Environmental Engineering Principles and Practices. (3).** Prerequisite(s): CEGR 3141 and Civil Engineering or Environmental Engineering major. Cross-listed Course(s): CEGR 5149. Fundamental science and engineering principles used in environmental engineering and how these principles apply in the functioning of the most common unit processes used in water, wastewater, air, and waste management facilities.

**CEGR 4153. Fundamentals of Environmental Microbiology. (3).** Prerequisite(s): CEGR 3141 and Civil Engineering or Environmental Engineering major. Cross-listed Course(s): CEGR 5153. Introductory concepts on fundamentals of environmental microbiology to students from different engineering and science disciplines. This course focuses on understanding the role of microbiology to environmental engineering and science. Concepts related to different molecular biology tools used in microbial ecology will be introduced. Fundamentals of microbiology in different natural and biological processes will be discussed.

**CEGR 4161. Advanced Traffic Engineering. (3)** Prerequisite(s): CEGR 3161 with grade of C or above, or permission of CEE Advisor; and Engineering major or minor. Analysis of basic characteristics of drivers, vehicles, and roadway that affect the performance of road systems. Stream flow elements, volume, density, speed. Techniques of traffic engineering measurements, investigations and data analysis, capacity analysis. Intersections, accidents, parking.

**CEGR 4162. Transportation Planning. (3)** Prerequisite(s): CEGR 3161 with grade of C or above, and Engineering major or minor. Urban transportation; travel characteristics of urban transportation systems; analysis of transportation-oriented studies; analytic methods of traffic generation, distribution, modal split, and assignment; traffic flow theory.

**CEGR 4168. Airport Planning and Design. (3)** Cross-listed Course(s): CEGR 5168. Prerequisite(s): CEGR 3161 and permission of department. The principles of airport planning and design are studied. Covers essential elements of current airport planning and design trends, including airport master planning and layout plans, forecasting, capacity and delay effects, geometric design and layout of airfields including signage and lighting, and the organization and layout of terminal facilities. Also focuses on environmental planning, such as hazardous wildlife attractants, airport noise, and compatible land use. Additionally, it explores the financing options related to capital development of airports, including grants, passenger facility charges, and bonds.

**CEGR 4171. Urban Public Transportation. (3)** Prerequisite(s): CEGR 3161 with grade of C or above, or permission of CEE Advisor; and Engineering major or minor. Planning, design, and operation of bus, rail, and other public modes. Relationship between particular modes and characteristics of urban areas. Funding, security and other administrative issues.

**CEGR 4181. Human Factors in Traffic Engineering. (3)** Prerequisite(s): CEGR 3161 with grade of C or above, or permission of CEE Advisor; and Engineering major or minor. Study of the driver's and pedestrian's relationship with the traffic system, including roadway, vehicle, and environment. Consideration of the driving task, driver and pedestrian characteristics, performance and limitations with regard to traffic facility design and operation.

**CEGR 4182. Transportation Environmental Assessment. (3)** Prerequisite(s): Senior standing and permission of CEE Advisor; and Engineering major or minor. A study of the environmental impact analysis and assessment procedures for transportation improvements. Route location decisions. Noise, air quality, socio-economic, and other impacts.

**CEGR 4185. Geometric Design of Highways. (3)** Prerequisite(s): CEGR 3153, CEGR 3161 with grade of C or above, and Engineering major or minor. Theory and practice of geometric design of highways including intersections, interchanges, parking and drainage facilities. Driver ability, vehicle performance, safety and economics are considered. Two hours of lecture and three laboratory hours per week.

**CEGR 4222. Structural Steel Design II. (3)** Prerequisite(s): CEGR 3122 and CEGR 3221 with grades of B or above, and Engineering major or minor. Analysis and design of structural steel components and systems with emphasis on theories necessary for a thorough understanding of the design of complete structures. Composite beams, biaxial bending, beam columns, required strength analysis using the Direct Analysis Method, and bolted and welded connections are covered. Current ANSI/AISC 360 specifications used.

**CEGR 4223. Timber Design. (3)** Prerequisite(s): CEGR 3122 with grade of B or above; and Engineering major or minor. Principles of timber design. Design of simple timber structures subjected to gravity loads and lateral forces. Computation of design loads; formulation of structural systems; design/analyze structural components and connections; structural system analysis of timber structures.

**CEGR 4224. Advanced Structural Analysis. (3)** Prerequisite(s): CEGR 3122 with grade of B or above, and Engineering major or minor. Analysis of statically indeterminate structures using approximate and classical methods. Flexibility method, slope deflection method, and moment distribution method. Introduction to matrix methods of structural analysis and commercial structural analysis software.

**CEGR 4226. Reinforced Concrete Design II. (3)** Prerequisite(s): CEGR 3225 with grade of B or above, and Engineering major or minor. Analysis and design of reinforced concrete components and systems with emphasis on the fundamental theories necessary for a thorough understanding of concrete structures. Concentrically loaded slender columns, slender columns under compression plus bending. Wall footings and column footings. Analysis of continuous beams and frames. Total design project involving the analysis and design of a concrete structure. Current ACI Specifications used.

**CEGR 4242. Wastewater Treatment Design. (3)** Prerequisite(s): CEGR 3141 with grade of C or above, or permission of department; and Civil Engineering or Environmental Engineering major. Analysis and design of wastewater treatment processes. Regulatory requirements, water quality testing, pretreatment, primary treatment, biological processes, nutrient removal, disinfection and tertiary/advanced processes.

**CEGR 4246. Energy and the Environment. (3)** Prerequisite(s): CEGR 3141 with grade of C or above, or permission of department; and Civil Engineering or Environmental Engineering major. A quantitative survey of the sources and uses of energy and an analysis of their economic, environmental, and social impacts to society.

**CEGR 4247. Sustainability. (3)** Prerequisite(s): CEGR 3141 with grade of C or above, and Engineering major or minor. Focuses on sustainability as it applies to civil engineering, including land development choices, infrastructure planning, material selection and disposal, energy sources, and water supply and treatment. Methods of assessing sustainability and incorporating sustainable features in design are reviewed.

**CEGR 4262. Traffic Engineering. (3)** Prerequisite(s): CEGR 3161 with grade of C or above, or permission of CEE Advisor; and Engineering major or minor. Operation and management of street and highway systems. Traffic control systems, traffic flow theory, and highway capacity. Evaluation of traffic engineering alternatives and the conduct of traffic engineering studies.

**CEGR 4264. Landfill Design. (3)** Prerequisite(s): CEGR 3278 and CEGR 3258 or CEGR 3259, all with grade of C or above; and Engineering major or minor. Principles and regulations pertaining to waste disposal and municipal solid waste landfill siting, design, construction, and operation. Specific focus on design and construction of composite liner, mass flux analysis, and design and operation of leachate and gas collection systems.

**CEGR 4270. Earth Pressures and Retaining Structures. (3)** Prerequisite(s): CEGR 3122 and CEGR 3278 with grades of C or above, or permission of CEE Advisor; and Engineering major or minor. Earth pressure theories, effects of wall friction and external loads (including earthquake); design of rigid retaining walls (including structural details); sheetpile wall design; soil reinforcement systems for retaining structures; computer applications.

**CEGR 4271. Pavement Design. (3)** Prerequisite(s): CEGR 3161 and CEGR 3278 with grades of C or above, or permission of CEE Advisor, and Engineering major or minor. Pavement design concepts and considerations; engineering properties of pavement materials, including soils, bases, asphalt concrete, and portland cement concrete; design of flexible and rigid pavements including shoulders and drainage; computer applications for pavement analysis and design.

**CEGR 4272. Design with Geosynthetics. (3)** Prerequisite(s): CEGR 3278 and CEGR 3258 or CEGR 3259 all with grades of C or above; and Engineering major or minor. Pre- or Corequisite(s): CEGR 4278. Introduction to geosynthetic materials, properties, laboratory test procedures, and functions; geosynthetic design methods used for geotechnical, transportation hydraulic, and geo-environmental applications (roadways, walls, slopes, foundation soils, landfills, and dams); the incorporation of geosynthetics for soil reinforcement, separation, filtration, drainage and containment.

**CEGR 4278. Geotechnical Engineering II. (3)** Prerequisite(s): CEGR 3278 with grade of C or above, or permission of CEE Advisor; and Engineering major or minor. Design of shallow and deep foundations, including structural considerations; lateral earth pressure theories; design of rigid and flexible earth retaining structures; advanced aspects of slope stability analysis; and computer applications.

# Chemistry (CHEM)

**CHEM 1111. Chemistry in Today's Society. (3)** For students not majoring in a Physical or Biological Science, Engineering, or science-oriented pre-professional program. The role of chemistry in society and the impact of chemistry on society. An introduction to the chemical concepts needed to understand many of the numerous scientific problems confronting society today. Three lecture hours and one Problem Session hour per week. Students who have received credit for CHEM 1251 may not enroll in CHEM 1111 or CHEM 1111L.

**CHEM 1111L. Laboratory in Chemistry. (1)** Pre- or Corequisite(s): CHEM 1111. Laboratory exercises to demonstrate what chemists do, techniques used in the laboratory, and the limitations inherent in any laboratory experiment. One three-hour laboratory per week. Students who have received credit for CHEM 1251 may not enroll in CHEM 1111L. Three contact hours.

**CHEM 1200. Fundamentals of Chemistry. (3)** Primarily for students with little or no chemistry background who intend to take CHEM 1251. Introduction to the basic concepts, problem solving skills, and language of chemistry. Develops relationships between chemical formulas and equations, and explores calculations dependent upon these. Students who already have credit for CHEM 1251 with grade of C or above may not take CHEM 1200 for credit. CHEM 1200 will not fulfill chemistry degree requirements.

**CHEM 1203. Introduction to General, Organic, and Biochemistry I. (3)** Prerequisite(s): Pre-Nursing major. Qualifies as a prerequisite only for CHEM 1204. Fundamentals of chemistry and selected topics from inorganic chemistry. Three lecture hours and one Problem Session hour per week.

**CHEM 1203L. Introduction to General, Organic, and Biochemistry I Laboratory. (1)** Prerequisite(s): Pre-Nursing major. Pre- or Corequisite(s): CHEM 1203. Laboratory investigations into the nature of inorganic compounds. One three-hour laboratory per week. Three contact hours.

**CHEM 1204. Introduction to General, Organic, and Biochemistry II. (3)** Prerequisite(s): CHEM 1203 with grade of C or above; and Pre-Nursing major. Selected topics from organic and biochemistry. Does not qualify as a prerequisite of any other chemistry course. Three lecture hours and one Problem Session hour per week.

**CHEM 1204L. Introduction to General, Organic, and Biochemistry II Laboratory. (1)** Prerequisite(s): CHEM 1203 and CHEM 1203L with grades of C or above; and Pre-Nursing major. Pre- or Corequisite(s): CHEM 1204. Laboratory investigations into the nature of organic and biochemical compounds. One three-hour laboratory per week. Three contact hours.

**CHEM 1251. General Chemistry I. (3)** Prerequisite(s): MATH 1100 or MATH 1101 with grade of C or above (or equivalent test score) or CHEM 1200 (which is recommended for students who have not had chemistry in high school) with grade of C or above. A principles-oriented course for science and engineering majors. Fundamental principles and laws of chemistry; the relationship of atomic structure to physical and chemical properties of the elements. Topics include: measurements, chemical nomenclature, reactions and stoichiometry, thermochemistry, atomic structure, periodicity, bonding, and molecular structure. Three lecture hours and one Problem Session hour per week. Students may attempt CHEM 1251 a total of three times. Withdrawing from the course after the Add/Drop deadline constitutes an attempt as does receiving any letter grade. Students who have received credit for CHEM 1251 may not enroll in CHEM 1111 or CHEM 1111L. Students who have received credit for CHEM 1251 with a grade of C or above may not enroll in CHEM 1200.

**CHEM 1251L. General Chemistry I Laboratory. (1)** Pre- or Corequisite(s): CHEM 1251. Experimental investigations involving the fundamental principles and laws of chemistry. One three-hour laboratory per week. Students may attempt CHEM 1251L a total of three times. Withdrawing from the course after the Add/Drop deadline constitutes an attempt as does receiving any letter grade. Students who have received credit for CHEM 1251L may not enroll in CHEM 1111L. *Three contact hours.*

**CHEM 1252. General Chemistry II. (3)** Prerequisite(s): CHEM 1251 with grade of C or above. Continuation of CHEM 1251. Topics include: gas laws, liquids and solids, solutions, chemical kinetics, chemical equilibrium, thermodynamics, and electrochemistry. Three lecture hours and one Problem Session hour per week. Students may attempt CHEM 1252 a total of three times. Withdrawing from the course after the Add/Drop deadline constitutes an attempt as does receiving any letter grade.

**CHEM 1252L. General Chemistry II Laboratory. (1)** Prerequisite(s): CHEM 1251 and CHEM 1251L with grades of C or above. Pre- or Corequisite(s): CHEM 1252. Continuation of CHEM 1251L. One three-hour laboratory per week. Students may attempt CHEM 1252L a total of three times. Withdrawing from the course after the Add/Drop deadline constitutes an attempt as does receiving any letter grade. *Three contact hours.*

**CHEM 1352. General Chemistry for Engineers. (4)** Prerequisite(s): Civil Engineering major or Environmental Engineering major. A comprehensive introduction to the chemical principles for students planning to pursue advanced courses and careers in civil and environmental engineering, emphasizing the critical role of chemistry in solving environmental challenges. Topics include chemical reactions, equilibrium, thermodynamics, kinetics, and electrochemistry, with a focus on their application to environmental systems and civil engineering materials. Students will explore the chemistry of natural and engineered systems, including water, air, and soil. Students may attempt CHEM 1352 a total of two times. Withdrawing from the course after the Add/Drop deadline constitutes an attempt, as does receiving any letter grade. Three lecture hours, one Problem Session hour, and one laboratory period of three hours per week.

**CHEM 2130. Survey of Organic Chemistry. (3)** Prerequisite(s): CHEM 1251 and CHEM 1252 with grades of C or above. A survey of organic chemistry, including aldehydes, ketones, amines, amides and carboxylic acids, designed to meet the needs of B.A. in Biology majors.

**CHEM 2131. Organic Chemistry I. (3)** Prerequisite(s): CHEM 1251 and CHEM 1252 with grades of C or above. Descriptive principles and techniques of organic chemistry and their applications to reactions of aliphatic and aromatic compounds and natural products. Students may attempt CHEM 2131 a total of three times. Withdrawing from the course after the Add/Drop deadline constitutes an attempt as does receiving any letter grade.

**CHEM 2131L. Organic Chemistry I Laboratory. (1)** Prerequisite(s): CHEM 1251, CHEM 1251L, CHEM 1252, and CHEM 1252L with grades of C or above. Pre- or Corequisite(s): CHEM 2131 or CHEM 2130 with grade of C or above. Laboratory investigations into the physical and chemical properties of organic compounds. One laboratory period of three hours per week. Students may attempt CHEM 2131L a total of three times. Withdrawing from the course after the Add/Drop deadline constitutes an attempt as does receiving any letter grade. *Three contact hours.*

**CHEM 2132. Organic Chemistry II. (3)** Prerequisite(s): CHEM 2131 with grade of C or above. Continuation of CHEM 2131. Three lecture hours and one Problem Session hour per week. Students may attempt CHEM 2132 a total of three times. Withdrawing from the course after the Add/Drop deadline constitutes an attempt as does receiving any letter grade.

**CHEM 2132L. Organic Chemistry II Laboratory. (1)** Prerequisite(s): CHEM 2131L with grade of C or above. Pre- or Corequisite(s): CHEM 2132. Continuation of CHEM 2131L. One laboratory period of three hours per week. Students may attempt CHEM 2132L a total of three times. Withdrawing from the course after the Add/Drop deadline constitutes an attempt as does receiving any letter grade. *Three contact hours.*

**CHEM 2136L. Organic Chemistry Laboratory. (1)** Pre- or Corequisite(s): CHEM 2132. Laboratory investigation involving a research-type project in lieu of CHEM 2132L. Available only upon departmental invitation. *Three contact hours.*

**CHEM 2141. Survey of Physical Chemistry. (3)** Prerequisite(s): CHEM 1252 and CHEM 1252L with grades of C or above; MATH 1120 or one semester of calculus (high school or above); and PHYS 1101, PHYS 2101, or one semester of physics (high school or above). A course designed for students in the life sciences or others desiring a one-semester survey of

the physical aspects of chemistry. Application of thermodynamics to chemical reactions, energy transfer processes, and chemical and physical equilibria; the study of reaction rates and mechanisms; structure of gases, liquids, and solids; molecular structure and spectroscopy.

**CHEM 3090. Special Topics in Chemistry. (1 to 4)** Prerequisite(s): Permission of department. Topics chosen from analytical, biochemistry, inorganic, organic, and physical chemistry. Lecture and/or laboratory hours will vary with the nature of the course taught. *May be repeated for credit.*

**CHEM 3111. Quantitative Analysis. (4)** Prerequisite(s): CHEM 1252 and CHEM 1252L with grades of C or above. Introduction to quantitative and analytical chemistry. Principles of equilibrium, classical, and simple instrumental approaches are considered. Three lecture hours, one Problem Session hour, and one laboratory period of three hours each week. Students may attempt CHEM 3111 a total of three times. Withdrawing from the course after the Add/Drop deadline constitutes an attempt, as does receiving any letter grade.

**CHEM 3121. Inorganic Chemistry. (3)** Prerequisite(s): CHEM 2131 with grade of C or above. Exploration of trends and bonding models for main group and metal elements and compounds. Additional topics include: the qualitative and quantitative aspects of periodicity, symmetry, acid-base chemistry, and redox chemistry, with application of these concepts to explain structure, bonding, and reactivity of inorganic and organometallic species.

**CHEM 3141. Physical Chemistry I. (3)** Prerequisite(s): CHEM 1252 and CHEM 1252L, each with grade of C or above; MATH 1241 and MATH 1242; PHYS 2102 and PHYS 2102L. Pre- or Corequisite(s): At least one of the following: MATH 2241, MATH 2242, MATH 2164, MATH 2171, STAT 3128, or a department-approved mathematics course. Quantum chemistry, atomic and molecular structure, spectroscopy.

**CHEM 3141L. Physical Chemistry I Laboratory. (1)** Pre- or Corequisite(s): CHEM 3141. Experiments in laser spectroscopy, quantum mechanics, kinetics, and thermodynamics. One laboratory period of three hours per week. Three contact hours.

**CHEM 3142. Physical Chemistry II. (3)** Prerequisite(s): CHEM 1252, CHEM 1252L, and CHEM 3141, each with grade of C or above; MATH 1241 and MATH 1242; PHYS 2102 and PHYS 2102L; or permission of instructor. Pre- or Corequisite(s): At least one of the following: MATH 2241, MATH 2242, MATH 2164, MATH 2171, STAT 3128, or a department-approved mathematics course. Kinetic theory of gases, statistical and classical thermodynamics, kinetics.

**CHEM 3142L. Physical Chemistry II Laboratory. (1)** Prerequisite(s): CHEM 3141L with grade of C or above. Pre- or Corequisite(s): CHEM 3141 or CHEM 3142. Continuation of CHEM 3141L. One laboratory period of three hours per week. Three contact hours.

**CHEM 3165. Survey of Biochemistry. (3)** Prerequisite(s): CHEM 2131 with grade of C or above. An introduction to fundamental principles of biochemistry, including the structures and functions of the four major classes of biological macromolecules (proteins, carbohydrates, nucleic acids, and lipids), enzyme catalysis with basic kinetics, and the chemical nature of metabolic/bioenergetics processes. These topics are introduced by examining the primary catabolic pathways of carbohydrates (glycolysis, gluconeogenesis, and the Krebs cycle) in detail.

**CHEM 3500. Chemistry Cooperative Education Experience. (0)** Prerequisite(s): Junior or Senior standing, chemistry through CHEM 2132, and acceptance into the Experiential Learning Program by the University Career Center. Enrollment in this course is required for Chemistry majors during each semester or summer when they are working on a co-op assignment. Participating students pay a course registration fee for transcript notation. Assignments must be arranged and approved in advance. The Cooperative Education Program is only open to undergraduate students; graduate level students are encouraged to contact their academic departments to inquire about academic or industrial internship options for credit. For more information, contact the University Career Center. *Course may be repeated. Graded on a Satisfactory/Unsatisfactory basis.*

**CHEM 3695. Chemistry Seminar I. (1)** Prerequisite(s): Chemistry major and CHEM 2131 with a grade of C or above. Introduction to electronic database queries and analysis of the chemical literature. Reading and analyzing primary chemical literature articles and writing a journal format paper based on them. Three contact hours.

**CHEM 4090. Special Topics in Chemistry. (1 to 4)** Prerequisite(s): Permission of instructor. Selected topics in chemistry. Lecture and/or laboratory hours vary with the nature of the course taught. *May be repeated for credit.*

**CHEM 4095. Topics for Teachers. (1 to 4)** Prerequisite(s): Permission of instructor. Selected topics in chemical education. Lecture and/or laboratory hours vary with the nature of the course taught. *May be repeated for credit.*

**CHEM 4111. Instrumental Analysis. (4)** Prerequisite(s): CHEM 3111, CHEM 3141, and CHEM 3141L with grades of C or above. Selected modern instrumental methods of analysis, including theory and practice, with considerable attention given to the instrument and elementary electronics involved in the techniques. Two lecture hours and six hours of lab per week.

**CHEM 4121. Advanced Inorganic Chemistry. (4)** Prerequisite(s): CHEM 2132; and CHEM 2132L or CHEM 2136L with grades of C or above. Pre-or Corequisite(s): CHEM 3141. A review of atomic structure and bonding, a survey of the synthesis, structure, and reactivity of the elements and their most important compounds, a discussion of key industrial processes dealing with the preparation of inorganic compounds, and an overview of coordination and organometallic chemistry. Laboratory work involves inorganic preparations and characterization techniques. Three lecture hours and one laboratory period of three hours a week.

**CHEM 4133. Methods of Organic Structure Determination. (2)** Prerequisite(s): CHEM 2132; and CHEM 2132L or CHEM 2136L with grades of C or above. Study and application of modern techniques, primarily spectroscopy, to determine the structure of organic molecules. One hour of lecture and one laboratory period of three hours each week.

**CHEM 4134. Organic Reaction Mechanisms. (2)** Prerequisite(s): CHEM 2132; and CHEM 2132L or CHEM 2136L with grades of C or above. Mechanistic and theoretical topics which are beyond the scope of CHEM

2131 and CHEM 2132, including orbital symmetry control of organic reactions, the Hammett Equation and other linear free energy relationships, heterocyclic compounds, polycyclic aromatic compounds, organic photochemistry, carbynes, nitrenes, arynes and other short lived, reactive intermediates.

**CHEM 4165. Principles of Biochemistry I. (3)** Prerequisite(s): CHEM 2132 with grade of C or above. A study of the structures, properties, and functions of biological molecules, bioenergetics of biological reactions, and enzyme catalysis, with particular emphasis on the underlying chemical principles, including thermodynamics and kinetics.

**CHEM 4165L. Principles of Biochemistry I Laboratory. (1)** Prerequisite(s): CHEM 2132L or CHEM 2136L with grade of C or above. Pre- or Corequisite(s): CHEM 4165. Physical properties of biological molecules and an introduction to experimental techniques of biochemical research. Eleven four-hour lab periods. Three contact hours.

**CHEM 4166. Principles of Biochemistry II. (3)** Prerequisite(s): CHEM 4165 with grade of C or above. A study of various metabolic pathways and information transfer, including molecular aspects of cell biology and genetics, with particular emphasis on the underlying chemical reactions, including thermodynamics and kinetics.

**CHEM 4171. Biochemical Instrumentation. (4)** Prerequisite(s): CHEM 3111, CHEM 4165, and CHEM 4165L with grades of C or above, or permission of department. Modern instrumental methods used in biorelated areas such as biochemistry, biotechnology, and medical technology. Theory and practice. Electrochemistry, immunochemistry, spectroscopy, chromatography, sedimentation, and electrophoresis. Two lecture hours and six hours of lab per week.

**CHEM 4200. Computational Chemistry. (4)** Prerequisite(s): CHEM 2141, CHEM 3121, or permission of instructor (for the B.A. in Chemistry program). Pre- or corequisite(s) CHEM 3141 or permission of instructor (for the B.S. and M.S. in Chemistry programs). Electronic and molecular mechanics-based computational methods, including properties, optimized equilibrium and transition state structures and potential energy surfaces of reactions. Three lecture hours and three hours of laboratory each week. Additional projects required of graduate students.

**CHEM 4695. Chemistry Seminar II. (2)** Prerequisite(s): Senior standing; CHEM 3695 with a grade of C or above; and CHEM 2132, CHEM 2141, CHEM 3111, CHEM 3121, or CHEM 3141 with a grade of C or above. Senior standing. Discussion of recent developments in chemistry based on primary literature. Written and oral reports are required.

**CHEM 4696. Chemistry Seminar. (1)** Prerequisite(s): CHEM 3695, CHEM 4695, and Senior standing. Discussion of recent developments and special topics in chemistry. Written and oral reports are required.

**CHEM 4900. Directed Undergraduate Research. (1 to 4)** Prerequisite(s): Permission of instructor overseeing the research; and, when taken for honors credit, approval of a proposal through the Honors College Application to Candidacy process the semester prior to taking the course. Independent study and research in any of these fields of chemistry: organic, physical, analytical, inorganic chemistry or biochemistry. Hours for laboratory and library work to be determined. *May be repeated for credit*.

# Humanities & Earth and Social Sciences (CHES)

**CHES 1200. CHESS First-Year Seminar. (3)** Prerequisite(s): CHESS majors. This First-Year Seminar course is for CHESS majors only. A seminar-style learning experience focused around a particular theme that is designed to assist with the intellectual and social transition from high school to college by increasing the involvement of students in the intellectual life of the campus; providing an orientation to resources available to students; and promoting problem solving and writing skills.

**CHES 1210. FIT for College Success. (3)** This 3-credit, 8-week course supports first-year and transfer students enrolled in CHESS-FIT during their first year at Charlotte. Course topics, activities, and projects have been designed to foster skills for academic success, enable students to discover and connect to the university, and build self-efficacy and resilience. This is a discussion-based, reflection-heavy, people-centered classroom. Students are expected to attend each class period, take notes, read/analyze, draft/write/revise, reflect, and engage heavily with course materials as well as their peers, peer mentors, and instructor throughout the duration of this course.

**CHES 3400. Non-Residential Studies. (1 to 15)** Cross-listed Course(s): COSC 3400. Experience outside the University which provides an alternative learning opportunity to broaden understanding of the major and provide an introduction to various careers. All arrangements for non-residential study must be approved in advance and include a written proposal of goals, methods, duration, hours credit, and evaluation procedures. The University Career Center is available to assist students to locate appropriate work experiences. Student projects are approved, supervised, and evaluated within the student's major department. Grading by a faculty advisor may be on a *Pass/No Credit basis*, ordinarily to be taken in the Junior or Senior year. *May be repeated for credit.* No more than 15 hours of non-residential studies may be presented toward a degree. (Cannot be used toward general degree requirements.) Contact major department or University Career Center for information.

**CHES 3480. Citizenship and Service Practicum. (3)** An interdisciplinary, experiential learning course which examines the relationship between citizenship and service to one's community. Lectures, reading, and seminars explore the historical, ethical, and political foundations of voluntary service for issues such as poverty, homelessness, and social justice. Course meets for two hours of lecture/discussion per week and requires completion of 40 hours of voluntary service in the community.

**CHES 3500. Humanities & Earth and Social Sciences Cooperative Education Experience. (0)** Prerequisite(s): Departmental GPA and credit hours required and approval by the departmental Co-op Coordinator in conjunction with the University Career Center. Enrollment in this course is required for College of Humanities & Earth and Social Sciences students involved in professional work experiences offered through either the co-op (part-time work) or the alternating co-op (full-time work) option of the cooperative education program. Participating students pay a course registration fee for transcript notation. Assignments must be arranged and approved in advance. The Cooperative Education Program is only open to undergraduate students; graduate level students are encouraged to contact their academic

departments to inquire about academic or industrial internship options for credit. For information, contact the University Career Center. *Course may be repeated. Graded on a Satisfactory/Unsatisfactory basis.*

**CHES 4800. LEADS Capstone Project. (3)** Prerequisite(s): CHES 2600 or COSC 2600 and LEADS elective courses, Senior standing, and permission of department. Cross-listed Course(s): COSC 4800. The capstone experience for completion of the Undergraduate Certificate in Leadership, Innovation, Diversity, and Technology. Student are expected to demonstrate their professional experience, growth, and development through the LEADS certificate program in an electronic portfolio format.

## Child and Family Development (CHFD)

**CHFD 2412. The Practice of Observation, Documentation, and Analysis of Young Children's Behavior. (3)** Prerequisite(s): Pre-CHFD or CHFD major or minor; and minimum 2.5 GPA overall. ECEI 2111. Effective methods of observation, documentation, and assessment as related to developmental theory for young children, Birth-8, who are culturally, linguistically, and ability-diverse. A field-based clinical assignment of approximately 30 clinical hours is required.

**CHFD 3115. An Ecological Approach to Learning and Development - Early Childhood to Pre-Adolescence. (3)** Prerequisite(s): Admittance to Teacher Education in Child and Family Development with GPA of at least 2.5 overall and 2.75 in the major; ECEI 2111; ECEI 2113; and CHFD 2412. Examines learning and development in the context of the child's physical and social environments, including home, neighborhoods, schools, communities, national policies and global influences. Specific attention to the approaches to learning, emotional/social, health/physical, cognitive, and language/communication domains and theories as seen in a multicultural context.

**CHFD 3116. Approaches to Integrated Curriculum for Young Children [3-8]. (3)** Prerequisite(s): Admittance to Teacher Education in Child and Family Development, GPA of at least 2.5 overall and 2.75 in the major; ECEI 3112; and CHFD 3115. Examines approaches to learning within the context of emotional/social, health and physical, language and communication, and cognitive domains with an emphasis on practice in applied settings. This course provides opportunities to select, modify, present, and extend curriculum for young children who are culturally, linguistically, and ability diverse in a developmental framework.

**CHFD 3412. Internship 1: The Family and the Community (Birth to 3 Years). (3-6)** Prerequisite(s): Admittance to Teacher Education, GPA of at least 2.5 overall and 2.75 in the major. Pre- or Corequisite(s): ECEI 2114. Explores the influence of family and community on the development of infants and toddlers through field-based experiences. Students complete an intensive internship in settings with children who are culturally, linguistically, and ability diverse. Collaboration with families is emphasized. A field-based clinical assignment of approximately 150 hours is required.

**CHFD 3416. Internship: Child and Family Development. (3)** Prerequisite(s): Admittance to Teacher Education in Child and Family Development; GPA of at least 2.5 overall and 2.75 in the major; and ECEI 2114. Corequisite(s): CHFD 3118. Intensive work with children and families in home and community settings planned by student and advisor with focus on integration of theory and practice.

**CHFD 3800. Individual Study in Child and Family Development. (1 to 6)** Prerequisite(s): Permission of the student's CHFD advisor. Independent study under the supervision of an appropriate faculty member. *May be repeated for credit.*

## Chinese (CHNS)

**CHNS 1201. Elementary Chinese I. (3)** Fundamentals of the Chinese language, including speaking, listening comprehension, reading, and writing.

**CHNS 1202. Elementary Chinese II. (3)** Prerequisite(s): CHNS 1201 or permission of department. Fundamentals of the Chinese language, including speaking, listening comprehension, reading, and writing.

**CHNS 1205. Accelerated Elementary Chinese. (4)** Focus on basic reading and writing skills for students with native/near-native listening and speaking abilities in Chinese.

**CHNS 1502. Global Arts/Humanities: Chinese Culture in the World. (3)** This Global Theme course uses the methods and insights of the social sciences to explore the central question of what it means to be a citizen of the world. Through the study of one or more different peoples, societies or cultures across the globe, students will be able to better understand themselves as part of a complex, interconnected world. Students are introduced to critical studies of language and culture through a broad engagement with the influence and presence of Chinese and Chinese Culture throughout the world. Course materials may draw widely from pop culture, music, film, media, the arts, and literature. Taught in English.

**CHNS 1512. Local Arts/Humanities: Chinese and Chinese Culture in the U.S. (3)** This Local Theme course uses the methods and insights of the arts and humanities to explore the central question of what it means to be a member of a "local" community. Through the study of the experiences of different peoples, societies, cultural traditions, and modes of expression in communities at the city, regional, or national level, students will be able to better understand the complexity and diversity of the society in which we live. Students are introduced to critical studies of language through a broad engagement with the influence and presence of Chinese and Chinese Culture in the United States. Course materials may draw from literature, history, film, linguistics, and the arts. Taught in English.

**CHNS 2201. Intermediate Chinese I. (3)** Prerequisite(s): CHNS 1202 or permission of department. Review of grammar, with conversation and composition.

**CHNS 2202. Intermediate Chinese II. (3)** Prerequisite(s): CHNS 2201 or permission of department. Continued review of grammar, conversation, and composition.

**CHNS 2205. Accelerated Intermediate Chinese. (4)** Prerequisite(s): CHNS 1202 or CHNS 1205; or permission of department. Focuses on

developing reading and writing skills for students with native/near-native listening and speaking abilities in Chinese.

**CHNS 3050. Topics in Chinese. (3)** Study of a particular facet of the Chinese language, culture, or literature. *May be repeated for credit with change of topic.*

**CHNS 3051. Topics in Chinese. (1 to 3)** Study of a particular facet of the Chinese language, culture, or literature. *May be repeated for credit with change of topic.*

**CHNS 3201. Chinese Grammar and Conversation I. (3)** Prerequisite(s): CHNS 2202 or permission of department. Review of Chinese grammar and guided conversation on prepared topics. Emphasis on spoken Chinese.

**CHNS 3202. Chinese Grammar and Conversation II. (3)** Prerequisite(s): CHNS 3201 or permission of department. Review of Chinese grammar and guided compositions on prepared topics. Emphasis on vocabulary, idiomatic expressions, and stylistics.

**CHNS 3203. Advanced Chinese Grammar and Conversation. (3)** Prerequisite(s): CHNS 3201 or permission of the department. CHNS 3203 is a required course for the Chinese Minor. It is designed for students who have successfully completed Chinese Grammar and Conversation I (CHNS 3201) at UNC Charlotte, or have acquired knowledge and skills equivalent to successful completion of CHNS 3201 elsewhere. This course aims to improve students' levels of communicative competence in listening, speaking, reading, writing and cultural acquisition. Students will continue to develop and expand their understanding and use of the Chinese language, especially more specialized vocabulary, and complex sentence structures. In addition to improving the students' fluency in the vernacular style, the course also begins to introduce students to some basic "Literary style" expressions, including vocabulary, idiomatic expressions and stylistics. The course is conducted in Chinese.

**CHNS 3225. Short-Term Abroad. (3)** Prerequisite(s): Permission of instructor. Faculty-led short-term study abroad experience offered during Spring Break.

**CHNS 3400. Chinese Teaching Practicum. (3)** Prerequisite(s): One Chinese language course at the 3000 level (CHNS 3201, CHNS 3202 or CHNS 3203) or equivalent with a grade of B or above, or permission of department. Provides students with opportunities to serve as language assistants in Chinese language courses. This course provides students with practical, hands-on experience in the field of Chinese language and cultural education. Students must obtain approval in the semester preceding the semester in which the practicum is to be taken. *May be repeated for credit one time with permission of department.*

# College of Science (COSC)

**COSC 1600. Thinking Scientifically for College Success.(1 to 3)** Prerequisite(s): FR standing and Klein College of Science major. In this Prospect for Success course, students from multiple science disciplines will develop key problem-solving and investigative skills through project-based learning experiences. They will also enhance their personal and professional development, their student development, and set goals for their collegiate experience. Throughout the course, students will develop the critical skills needed to succeed in their exploration of science and mathematics and work towards becoming an inquisitive, scientifically literate citizen.

**COSC 2600. LEADS Colloquium. (1)** Cross-listed Course(s): CHES 2600. An introduction to LEADS focused on providing opportunities for students to engage with the key pillars of LEADS. It is conducted in the context of real-world thinking and activities designed to help students understand what leadership is, how it can be cultivated, and how leaders can use creative problem solving to move from ideas to causing action. Through a series of highly personalized activities, the course emphasizes initiative, adaptability, creativity, critical questioning, and problem solving. Reflective learning and the development of communication skills are central to this course experience. Upon successful completion of this course, students should be able to display attitudes, skills, and behaviors that are needed to succeed academically, personally and professionally. Students gain practice and knowledge around communication, critical thinking, collaboration, creativity, and careers. Developing and practicing these core competencies, called the 5 C's, contribute to the student's overall personal and academic brand, confidence level around their academic path, and their connection to the UNC Charlotte and LEADS culture and community.

**COSC 3000. Topics in Science. (1 to 4)** Prerequisite(s): Sophomore, Junior, or Senior standing. Cross-listed course(s): Topics chosen from the general area of the sciences in order to demonstrate relationships and interdisciplinary influences. Can be used toward general degree requirements as indicated each time the course is offered. *May be repeated for credit with change of topics and permission of student's major department.*

**COSC 3400. Non-Residential Studies (1 to 15)** Prerequisite(s): Junior or Senior standing. Cross-listed Course(s): CHES 3400. Experience outside the University which provides an alternative learning opportunity to broaden understanding of the major and provide an introduction to various careers. All arrangements for non-residential study must be approved in advance and include a written proposal of goals, methods, duration, hours credit, and evaluation procedures. The University Career Center is available to assist students to locate appropriate work experiences. Student projects will be approved, supervised, and evaluated within the student's major department. Grading by a faculty advisor may be on a Pass/No Credit basis, ordinarily to be taken in the Junior or Senior year. No more than 15 credit hours of non-residential studies may be presented toward a degree. (Cannot be used toward general degree requirements.) Contact major department or University Career Center for information. *May be repeated for credit up to 15 credit hours.*

**COSC 4800. LEADS Capstone Project. (3)** Prerequisite(s): COSC 2600 and LEADS elective courses; Senior standing and permission of department. Cross-listed Course(s): CHES 4800. The capstone experience for completion of the Undergraduate Certificate in Leadership, Innovation, Diversity, and Technology. Students are expected to demonstrate their professional experience, growth, and development through the LEADS certificate program in an electronic portfolio format.

# Criminal Justice and Criminology (CJUS)

**CJUS 1200. Professionalism in Criminal Justice and Criminology. (1)** Prerequisite(s): Criminal Justice major. Designed especially for students in their first or second year as a Criminal Justice & Criminology major, this course introduces students to work habits, skill sets, and attitudes that promote academic success, and cultivate professional development as they prepare for a career after graduation. *Criminal Justice majors must complete the course with a grade of C or above.*

**CJUS 1511. Local Social Science: Foundations of Criminal Justice. (3)** This Local Theme course uses the methods and insights of the social sciences to explore the central question of what it means to be a member of a "local" community. Through the study of the experiences of different peoples, cultures, and communities in our city, our region, or our nation students will be able to better understand the complexity and diversity of the society in which we live. Students are introduced to the major components of the American criminal justice system at the local, state and federal levels. Contemporary issues within the criminal justice system are discussed, including the over-representation of different demographic groups under criminal justice supervision. *May not be taken for credit and for a grade if credit has been received for CJUS 1100. Criminal Justice majors and minors must complete the course with a grade of C or above within two attempts.*

**CJUS 2320. Introduction to Courts. (3)** Cross-listed Course(s): LEGL 2320. Prerequisite(s): CJUS 1511 with grade of C or above. Analysis of the court area of criminal justice with emphasis on social science literature concerning prosecutors, defense attorneys, judges, juries, court structure, and court reform policies.

**CJUS 2340. Criminological Theory. (3)** Prerequisite(s): CJUS 1511 with grade of C or above. Designed especially for students in their first or second year as a Criminal Justice & Criminology major/minor, this course provides an overview of the dominant theoretical explanations for crime and deviance. Special attention is given to the empirical research on these theories and their corresponding policy/program recommendations for reducing crime and delinquency in society. *Criminal Justice majors and minors must complete the course with a grade of C or above within two attempts.*

**CJUS 2350. Introduction to Corrections. (3)** Prerequisite(s): CJUS 1511 with grade of C or above. An overview of community and institutional corrections in the U.S. such as jails, probation, alternatives to incarceration, correctional institutions, treatment strategies, and parole.

**CJUS 2360. Ethics and the Criminal Justice System. (3)** Prerequisite(s): CJUS 1511 with grade of C or above. The study of applied and professional ethics and ethical issues in the administration of justice.

**CJUS 2361. Juvenile Justice. (3)** Prerequisite(s): CJUS 1511 with grade of C or above. Intensive analysis of the administration of juvenile justice within the United States. Particular emphasis on decision-making and procedures of police, courts, and correctional agencies for juveniles.

**CJUS 2370. Research Methods in Criminal Justice. (3)** Prerequisite(s): CJUS 1511 with grade of C or above; Criminal Justice major. Designed especially for students in their first or second year as a Criminal Justice & Criminology major, this course provides an overview of research design, data collection, and data analysis relevant to criminal justice. *Criminal Justice majors must complete the course with a grade of C or above.*

**CJUS 2380. Introduction to Law Enforcement. (3)** Prerequisite(s): CJUS 1511 with grade of C or above. An overview of law enforcement agencies and their role in the U.S., including topics such as the history of policing, contemporary policing practices, officer discretion, and police use of force.

**CJUS 3000. Topics in Criminal Justice. (3)** Prerequisite(s): CJUS 1511 and CJUS 2340, both with grade of C or above; Criminal Justice major or minor; and Junior or Senior standing. Specialized criminal justice topics. *May be repeated for credit.*

**CJUS 3320. Criminal Justice and the Law. (3)** Cross-listed Course(s): LEGL 3320. Prerequisite(s): CJUS 1511 and CJUS 2340, both with grade of C or above; Criminal Justice major or minor; and Junior or Senior standing. Nature and development of criminal law including the concepts of criminal liability, responsibility, and capacity; analysis of crimes against persons, property, social order, and morality.

**CJUS 3321. Criminal Procedure. (3)** Cross-listed Course(s): LEGL 3321. Prerequisite(s): CJUS 1511 and CJUS 2340, both with grade of C or above; Criminal Justice major or minor; and Junior or Senior standing. Examines the rules, policies, and law that govern everyday operation of the criminal justice system from arrest to appeal.

**CJUS 3323. Correctional Law. (3)** Prerequisite(s): CJUS 1511 and CJUS 2340, both with grade of C or above; Criminal Justice major or minor; and Junior or Senior standing. Development, substance, and application of the law of corrections.

**CJUS 3340. The Juvenile Offender. (3)** Prerequisite(s): CJUS 1511 and CJUS 2340, both with grade of C or above; Criminal Justice major or minor; and Junior or Senior standing. Nature and extent of juvenile delinquency in the US, theories of delinquent behavior, and an overview of juvenile policing and the juvenile justice system.

**CJUS 3341. The Criminal Offender. (3)** Prerequisite(s): CJUS 1511 with a grade of C or above; Criminal Justice major or minor; and Junior or Senior standing. Examines theories of adult criminal behavior, with topics such as mental illness and violence, psychopathy, sexual deviance, and substance abuse.

**CJUS 3351. Community Corrections. (3)** Prerequisite(s): CJUS 1511 and CJUS 2340, both with grade of C or above; Criminal Justice major or minor; and Junior or Senior standing. Structure, functions, and effectiveness of community corrections. Emphasis on the deinstitutionalization movement, community-based treatment centers, community service agencies, work release programs, and current trends in community corrections.

**CJUS 3352. Institutional Corrections. (3)** Prerequisite(s): CJUS 1511 and CJUS 2340, both with grade of C or above; Criminal Justice major or minor; and Junior or Senior standing. Structure, functions, and effectiveness of correctional institutions. Emphasis on the history of corrections, classification of offenders, institutionalization, treatment programs, juvenile training schools, and the future of corrections.

**CJUS 3353. Juvenile Corrections. (3)** Prerequisite(s): CJUS 1511 and CJUS 2340, both with grade of C or above; Criminal Justice major or minor; and Junior or Senior standing. Examination of community-based and institutional correctional programs for juveniles and analysis of the effectiveness of these programs.

**CJUS 3354. Punishment and Freedom. (3)** Cross-listed Course(s): LEGL 3354 and HONR 3700-H01. Prerequisite(s): CJUS 1511 and CJUS 2340, both with grade of C or above; Criminal Justice major or minor; and Junior or Senior standing. Examines the manner in which the notions of freedom and punishment are fundamentally bound to one another, and how, at their intersections, these constructs are the source of considerable speculation regarding consumerism, democracy, capitalism, and ethics.

**CJUS 3362. Famous Criminal Trials of the Twentieth Century. (3)** Prerequisite(s): CJUS 1511 and CJUS 2340, both with grade of C or above; Criminal Justice major or minor; and Junior or Senior standing. The study of American criminal trials from 1900 to the present, with a review of specific cases to determine their effect upon, and reflection of, American society and culture.

**CJUS 3363. Mediation and Conflict Resolution. (3)** Cross-listed Course(s): LEGL 3363. Prerequisite(s): CJUS 1511 and CJUS 2340, both with grade of C or above; Criminal Justice major or minor; and Junior or Senior standing. Introduction to conflict and dispute resolution, with a specific emphasis on mediation. Course format includes lecture, case studies, and practice mediation role plays with instructor and peer feedback.

**CJUS 3364. The Administration of Criminal Justice. (3)** Prerequisite(s): CJUS 1511 and CJUS 2340, both with grade of C or above; Criminal Justice major or minor; and Junior or Senior standing. Examines major organizational theories and administrative functions with direct application to criminal justice agencies.

**CJUS 3365. Interviewing in Criminal Justice. (3)** Prerequisite(s): CJUS 1511 and CJUS 2340, both with grade of C or above; Criminal Justice major or minor; and Junior or Senior standing. Examines the interpersonal dynamics, theories, empirical research, and legal basis of the investigative interview necessary for the criminal justice professional. Special emphasis will be given to the establishment of rapport, the process of inquiry, the evaluation of response, cultural and age differences, and the need to remain within the legal bounds of the U.S. Constitution.

**CJUS 3366. Domestic Violence. (3)** Prerequisite(s): CJUS 1511 and CJUS 2340, both with grade of C or above; Criminal Justice major or minor; and Junior or Senior standing. Examination of the interpersonal dynamics of abusive relationships and how the cycle of violence perpetuates the home resulting in various forms of abuse including physical, verbal, psychological, and sexual violence.

**CJUS 3367. Problems and Decisions in Criminal Justice. (3)** Prerequisite(s): CJUS 1511 and CJUS 2340, both with grade of C or above; Criminal Justice major or minor; and Junior or Senior standing. Evaluation of criminal justice policy and decision-making.

**CJUS 3380. Law Enforcement Behavioral Systems. (3)** Prerequisite(s): CJUS 1511 and CJUS 2340, both with grade of C or above; Criminal Justice major or minor; and Junior or Senior standing. Examines the issues surrounding the individual officer. Such issues include: selection, discretion, ethics, stress, the use of force, and the effects of culture.

**CJUS 3382. Community-Oriented Policing and Problem-Solving. (3)** Prerequisite(s): CJUS 1511 and CJUS 2340, both with grade of C or above; Criminal Justice major or minor; and Junior or Senior standing. Designed to help students learn, in a practical hands on way, about community policing concepts, problem-solving tools and resources, and crime prevention strategies that are currently used by law enforcement and community leaders.

**CJUS 3400. Criminal Justice Internship. (3 to 6)** Prerequisite(s): CJUS 1511 and CJUS 2340, both with grade of C or above; Criminal Justice major; minimum 2.5 GPA; Junior or Senior standing; and permission of department and criminal justice agency. Structured and supervised opportunities for practical experience in a criminal justice agency that complements students' academic and professional goals. *May be repeated for credit up to a maximum of 12 hours but with no more than six hours counting toward the major.*

**CJUS 3800. Directed Individual Study. (1 to 3)** Prerequisite(s): CJUS 1511 and CJUS 2340, both with grade of C or above; Criminal Justice major or minor; Junior or Senior standing; and permission of department. Supervised individual investigation of a topic in criminal justice and criminology. *May be repeated for credit. Graded on a Pass/No Credit basis.*

**CJUS 4000. Topics in Crime Analytics. (3)** Prerequisite(s): CJUS 1511 or CJUS 1100 and CJUS 2370 or POLS 2220 or (PSYC 2103 or PSYC 3292) or (PSYC 2104 or PSYC 3291) or SOCY 3155 and STAT 1222 or STAT 1220 or STAT 1221, all with grades of C or above; Criminal Justice major; and Junior or Senior standing. Specialized topics in crime analytics. *May be repeated for credit.*

**CHNS 4050. Topics in Chinese. (3)** Prerequisite(s): CHNS 3202 or equivalent, or permission of instructor. Study of a particular facet of Chinese culture with emphasis on continued language study. Classes offered in Chinese. *May be repeated for credit with change of topic.*

**CJUS 4320. Evidence. (3)** Cross-listed Course(s): LEGL 4320. Prerequisite(s): CJUS 1511 and CJUS 2340, both with grade of C or above; Criminal Justice major or minor; and Junior or Senior standing. A critical examination of the use of evidence within the criminal courtroom. Emphasis placed on the rules of courtroom evidence with particular attention to the proper search and seizure of evidence.

**CJUS 4350. Victims and the Criminal Justice System. (3)** Prerequisite(s): CJUS 1511 and CJUS 2340, both with grade of C or above; Criminal Justice major or minor; and Junior or Senior standing. Relationship between victims of crime and the criminal justice system. Topics include: an analysis of the characteristics of crime victims, victim reporting and non-reporting patterns, treatment of victims by the various segments of the criminal justice system, victim assistance programs, and the issue of compensation and/or restitution for victims of crime.

**CJUS 4351. Violence and the Violent Offender. (3)** Prerequisite(s): CJUS 1511 and CJUS 2340, both with grade of C or above; Criminal Justice major or minor; and Junior or Senior standing. Issues surrounding

violence in today's society and their impact on offenders involved in homicide, child and domestic abuse, and other forms of violence. Examination of myths about violence, victim-offender characteristics and relationships, and theories of violence.

**CJUS 4352. Serial Murder. (3) (0)** Prerequisite(s): CJUS 1511 and CJUS 2340, both with grade of C or above; Criminal Justice major or minor; and Junior or Senior standing. An examination of the history, causation, investigation, and control of serial murder in the United States. Popular beliefs about serial murder are examined and contrasted with the most current research.

**CJUS 4360. Drugs, Crime, and the Criminal Justice System. (3)** Prerequisite(s): CJUS 1511 and CJUS 2340, both with grade of C or above; Criminal Justice major or minor; and Junior or Senior standing. Use of drugs and their relationship to crime, including the impact of drugs on the individual and the criminal justice system.

**CJUS 4361. International Criminal Justice. (3)** Prerequisite(s): CJUS 1511 and CJUS 2340, both with grade of C or above; Criminal Justice major; and Junior or Senior standing. Examination and comparison of the criminal justice system in the US to that of other countries, with an emphasis on worldwide philosophies of law and justice.

**CJUS 4363. Gender, Race, and Justice. (3)** Prerequisite(s): CJUS 1511 and CJUS 2340, both with grade of C or above; Criminal Justice major; and Junior or Senior standing. Examines how racial background, femininities, and masculinities might intersect to influence participants in the criminal justice system. Topics include: perceptions of race for offending and victimization, the notion of gender and offending, women and men as victims of violence and as professionals within the criminal justice system.

**CJUS 4364. Aging and Criminal Justice: An Interdisciplinary Understanding. (3)** Prerequisite(s): CJUS 1511 and CJUS 2340, both with grade of C or above; Criminal Justice major; and Junior or Senior standing. Cross-listed Course(s):: GRNT 4364, GRNT 5364. Utilizes an interdisciplinary approach to examining the many ways in which we interface with the criminal justice system as we age. Topics include: the nature and extent of aging related crime, the criminal justice system response to older offenders, older adults as participants in criminal trials, older adults as victims of crime and abuse, and legal issues for the older adult population. Particular attention is placed on assessing these issues from a policy perspective that incorporates concern for administrative, legal, and ethical issues.

**CJUS 4365. Criminal Justice and Social Diversity. (3)** Prerequisite(s): CJUS 1511 and CJUS 2340, both with a grade of C or above. Criminal Justice major; and Junior or Senior standing. An overview of how class, race, and gender interact with the dynamics of our Criminal Justice System with information on both the historical perspective and current realities of the interplay between diversity and justice in America. Additionally, students will discuss how race, class, gender, and crime are interrelated and how these four areas affect the social realities of today.

**CJUS 4366. Street Gangs. (3)** Prerequisite(s): CJUS 1511 and CJUS 2340, both with a grade of C or above; Criminal Justice major; and Junior or Senior standing. A general survey of theory, measurement, and research on street gangs and gang activity, as well as gang control programs and policies.

**CJUS 4367. Hate Crimes. (3)** Prerequisite(s): CJUS 1511 and CJUS 2340, both with grade of C or above; Criminal Justice major; and Junior or Senior. An overview of the legal, sociopolitical, psychological, and criminological underpinnings of hate-motivated crimes.

**CJUS 4370. Data Analytics and Crime. (3)** Prerequisite(s): CJUS 1511 or CJUS 1100 and CJUS 2370 or POLS 2220 or (PSYC 2103 or PSYC 3292) or (PSYC 2104 or PSYC 3291) or SOCY 3155 and STAT 1222 or STAT 1220 or STAT 1221, all with grades of C or above; Criminal Justice major, and Junior or Senior standing. An overview of the skills needed to read, manipulate, and analyze data related to crime and victimization.

**CJUS 4371. Criminal Data Sources, Data Management, and Cleaning. (3)** Prerequisite(s): CJUS 1511 or CJUS 1100 and CJUS 2370 or POLS 2220 or (PSYC 2103 or PSYC 3292) or (PSYC 2104 or PSYC 3291) or SOCY 3155 and STAT 1222 or STAT 1220 or STAT 1221, all with grades of C or above; Criminal Justice major; and Junior or Senior standing. The identification, extraction, management, and cleaning of criminal justice data in preparation for analytic procedures.

**CJUS 4372. Drug Analytics. (3)** Prerequisite(s): CJUS 1511 or CJUS 1100 and CJUS 2370 or POLS 2220 or (PSYC 2103 or PSYC 3292) or (PSYC 2104 or PSYC 3291) or SOCY 3155 and STAT 1222 or STAT 1220 or STAT 1221, all with grades of C or above; Criminal Justice major, and Junior or Senior standing. Scholarly and analytic measurement of drug, alcohol, and crime data and the health and financial impacts that drugs have on society.

**CJUS 4373. Intelligence Analysis and Security Analytics. (3)** Prerequisite(s): CJUS 1511 or CJUS 1100 and CJUS 2370 or POLS 2220 or (PSYC 2103 or PSYC 3292) or (PSYC 2104 or PSYC 3291) or SOCY 3155 and STAT 1222 or STAT 1220 or STAT 1221, all with grades of C or above; Criminal Justice major; and Junior or Senior standing. Intelligence analysis at the Federal, State, and Local levels and how analytic strategies can be employed to analyze qualitative and quantitative data of interest to those operating in the national security environment.

**CJUS 4374. Geospatial Analytics and Crime. (3)** Prerequisite(s): CJUS 1511 or CJUS 1100 and CJUS 2370 or POLS 2220 or (PSYC 2103 or PSYC 3292) or (PSYC 2104 or PSYC 3291) or SOCY 3155 and STAT 1222 or STAT 1220 or STAT 1221, all with grades of C or above; Criminal Justice major; and Junior or Senior standing. Analytic understanding of the spatial distribution of crime and the factors that precipitate crime patterns.

**CJUS 4375. Community-Oriented Policing, Problem Solving, and Crime Analysis. (3)** Prerequisite(s): CJUS 1511 or CJUS 1100 and CJUS 2370 or POLS 2220 or (PSYC 2103 or PSYC 3292) or (PSYC 2104 or PSYC 3291) or SOCY 3155 and STAT 1222 or STAT 1220 or STAT 1221, all with grades of C or above; Criminal Justice major; and Junior or Senior standing. Substantive understanding of the implementation of problem-solving strategies in policing as a foundation for crime analysis.

**CJUS 4376. Social Network Analysis. (3)** Prerequisite(s): CJUS 1511 or CJUS 1100 and CJUS 2370 or POLS 2220 or (PSYC 2103 or PSYC 3292) or (PSYC 2104 or PSYC 3291) or SOCY 3155 and STAT 1222 or STAT 1220 or STAT 1221, all with grades of C or above; Criminal Justice major; and Junior or Senior standing. Discussion of key social network concepts, their application to crime and delinquency, and the policy implications of social networks.

**CJUS 4377. Crime Measurement and Data Visualization. (3)** Prerequisite(s): CJUS 1511 or CJUS 1100 and CJUS 2370 or POLS 2220 or (PSYC 2103 or PSYC 3292) or (PSYC 2104 or PSYC 3291) or SOCY 3155 and STAT 1222 or STAT 1220 or STAT 1221, all with grades of C or above; Criminal Justice major; and Junior or Senior standing. Principles and techniques of data visualization as it relates to the measurement of crime and victimization.

**CJUS 4378. Causes and Consequences of Crime. (3)** Prerequisite(s): CJUS 1511 or CJUS 1100 and CJUS 2370 or POLS 2220 or (PSYC 2103 or PSYC 3292) or (PSYC 2104 or PSYC 3291) or SOCY 3155 and STAT 1222 or STAT 1220 or STAT 1221, all with grades of C or above; Criminal Justice major; and Junior or Senior standing. An examination of various causes and consequences of criminal activity through empirical research and with data analytical tools and techniques.

**CJUS 4379. Qualitative Research and Analysis in Criminal Justice. (3)** Prerequisite(s): CJUS 1511 or CJUS 1100 and CJUS 2370 or POLS 2220 or (PSYC 2103 or PSYC 3292) or (PSYC 2104 or PSYC 3291) or SOCY 3155 and STAT 1222 or STAT 1220 or STAT 1221, all with grades of C or above; Criminal Justice major; and Junior or Senior standing. An overview of the skills to conduct qualitative research, with an emphasis on the collection and analysis of qualitative data and its use and interpretation in criminal justice.

**CJUS 4400. Research Practicum. (3)** Prerequisite(s): CJUS 1200, CJUS 1511, CJUS 2340, CJUS 2370 (or POLS 2220, or PSYC 2391 & PSYC 3292 or PSYC 3291, or SOCY 3155) and STAT 1222 (or STAT 1220 or STAT 1221), all with grades of C or above; Criminal Justice major; and Junior or Senior standing. Development, analysis, and presentation of independent research under the supervision of a faculty member. Graduate students are encouraged to register for CJUS 6800.

**CJUS 4700. Honors Capstone in Criminal Justice I. (3)** Prerequisite(s): CJUS 1200, CJUS 1511, CJUS 2340, CJUS 2370 (or POLS 2220, or PSYC 2391 & PSYC 3292 or PSYC 3291, or SOCY 3155) and STAT 1222 (or STAT 1220 or STAT 1221), all with grades of C or above; Criminal Justice major; Criminal Justice Honors program. Required of all Honors students. Students will identify an Honors Capstone Committee, complete assigned readings, write and orally defend an honors capstone project proposal consistent with departmental and Honors College expectations.

**CJUS 4701. Honors Capstone in Criminal Justice II. (3)** Prerequisite(s): CJUS 1200, CJUS 1511, CJUS 2340, CJUS 2370 (or POLS 2220, or PSYC 2391 & PSYC 3292 or PSYC 3291, or SOCY 3155) and STAT 1222 (or STAT 1220 or STAT 1221), all with grades of C or above; Criminal Justice major; Junior or Senior standing; Criminal Justice Honors Program. Required of all Honors students. Working with their Honors Capstone Committee, students will complete their capstone project, orally defend the final product, and submit all files/documentation to the Honors College.

# Construction Management (CMET)

**CMET 1400. Introduction to Construction Management. (3)** Prerequisite(s): ETCE 1222. An introduction to the construction process, building materials, systems and designs and management issues. The course will focus on current trends in Residential, Commercial, Heavy Civil and Industrial Construction and the materials, systems and equipment used to complete projects.

**CMET 1680. Professional Development I: Construction Safety. (1)** Prerequisite(s): Open to freshman level Civil Engineering Technology and Construction Management majors. Professional seminar laboratory study of OSHA regulations pertaining to construction safety. Course includes presentations by industry professionals. Three hours per week.

**CMET 2105. Plan Reading. (2)** Prerequisite(s): ETCE 1222, CMET 1400, MATH 1103; Engineering major or minor. Corequisite(s): CMET 2221, CMET 2105L. Review and interpretation of construction drawings for Residential, Commercial, Civil and Industrial Projects to determine required materials and work activities in the execution of those projects.

**CMET 2105L. Plan Reading Lab. (1).** Co-requisite Course(s): CMET 2105, CMET 2221. Laboratory designed to familiarize the student with the variety of construction plans used for Residential, Commercial, Civil and Industrial projects, with emphasis on developing the skills to identify the various materials, equipment and work activities required to complete projects. Three laboratory hours per week.

**CMET 2135. Building Information Modeling (BIM). (3)** Prerequisite(s): ETCE 1211L. The creation, management, and application of building information models (BIM) to the construction, operation, and maintenance of a facility. Focus on 3D and 4D computer models of building components, renderings, animations, and interfacing with analysis tools.

**CMET 2175. Survey of Structures. (3)**. Prerequisite(s): ETGR 2101, CMET 2221. Basic concepts and principles of structural mechanics, analysis, and design of structural steel, reinforced concrete, and wood systems based on structural building codes. Emphasis is placed on practical aspects of structural analysis and design to include structural loading, beams, columns, and the use of building codes. This course also aims to cover basics behind structural system elements and the purpose these elements serve with relation to the structural load path. *The objective of this course is to provide construction management students with a basic understanding of building loading conditions and design requirements.*

**CMET 2221. Construction Means and Methods. (3)** Prerequisite(s): PHYS 1101 and Engineering major or minor. Co-requisite Course(s): CMET 2105. A study of the construction means, methods, and equipment used to develop a civil engineering design into a completed structure or system. Topics include: the characteristics, capabilities, and limitations of crews and equipment; selection of individual resources and systems; and analysis based on economics and performance.

**CMET 2680. Professional Development II: Sustainable Engineering and Construction. (1)** Prerequisite(s): Engineering major or minor. Professional seminar study of introductory concepts of sustainability and their application to engineering and construction. Course includes presentations by industry professionals. Three hours per week.

**CMET 3123. Cost Estimating. (3)** Prerequisite(s): CMET 2105, CMET 2105L, and CMET 2221; Engineering major or minor. Methods used to prepare construction cost estimates, engineer production and cost, and determine labor and equipment resources.

**CMET 3124. Cost Estimating II. (3)** Prerequisite(s): CMET 3123. Methods and strategies of estimating and bidding projects in the Residential, Commercial, Civil and Industrial sectors of construction.

**CMET 3126. Project Planning and Scheduling. (3)** Prerequisite(s): CMET 3123. Introduction to the methods for planning and scheduling including precedence diagrams, Work Breakdown Structures, scheduling logic and constraints, resources leveling and capability of scheduling software.

**CMET 3150. Construction Law and Contracts. (3)** Prerequisite(s): CMET 3123. Co-requisite Course(s): CMET 3224. Construction Law and Contracts provides a thorough and comprehensive guide to construction law by blending together foundational and socio-legal principles as they relate to the AEC Industry.

**CMET 3224. Construction Project Administration. (3)** Prerequisite(s): Junior or Senior standing or AAS degree; and Engineering major or minor. A study of the project management processes used in the design and construction of civil engineering projects. Topics include: the roles and responsibilities of project participants, project delivery methods, engineering and construction contracts, project control and documentation, and dispute resolution mechanisms.

**CMET 3680. Professional Development III: Professional Ethics. (1)** Prerequisite(s): Civil Engineering Technology or Construction Management major; and Junior standing. Professional seminar study of ethical issues and the application of professional ethical codes within the AEC industry. Course includes presentations by industry professionals. Three hours per week.

**CMET 4073. Special Topics - Construction Management. (1 to 4)** Cross-listed Course(s): CMET 5000. Prerequisite(s): Senior standing, permission of instructor, and Engineering major or minor. A study of new and emerging technical topics pertinent to the field of construction management. *May be repeated for credit.*

**CMET 4125. Construction Codes, Permits, Compliance and Sustainability. (3**) Prerequisite(s): CMET 3123, CMET 3150, CMET 3224; Engineering major or minor. An analysis of technical specifications, construction regulations and permits, project controls to ensure compliance and sustainability measures and strategies implemented in the AEC Industry.

**CMET 4126. Project Scheduling and Control. (3)** Prerequisite(s): CMET 3126 and Engineering major or minor. Methods for planning, scheduling, and controlling construction projects, emphasizing manual and computer based techniques for critical path method scheduling, resource management, construction cost control, and reporting practices.

**CMET 4129L. Construction Planning Laboratory. (1)** Prerequisite(s): CMET 3123 and Engineering major or minor. Pre- or Corequisite(s): CMET 4126. Methods for planning construction operations and projects for directed projects with an emphasis on developing schedules and cost estimates to reflect the plan. Three laboratory hours per week.

**CMET 4130. Infrastructure Systems (3)** Prerequisite(s): CMET 3123, ETCE 3131, and Engineering major or minor. Design of processes for the construction of permanent works applied to airports, roadways, bridges, dams/levees, water/wastewater facilities, and energy infrastructure; and the design and construction of associated temporary structures.

**CMET 4135. Construction Technologies and Innovation. (3)** Prerequisite(s): CMET 2135 and CMET 3224. An overview of current and new technologies on the horizon along with their applications in the AEC Industry such as Building Information Modeling, Drones, Remote Sensing, Virtual Reality and Artificial Intelligence.

**CMET 4228. Construction Office Operations. (2)** Prerequisite(s): CMET 3224 and Engineering major or minor. A study of management issues encountered in home and job-site office operations. Topics include: insurance and bonds, risk management, cost accounting, and quality management.

**CMET 4272. Capstone Project. (3)** Prerequisite(s): Senior standing in Construction Management and permission of department. Utilization of students' previous coursework to creatively investigate and produce solutions for a comprehensive construction management project.

**CMET 4273. Capstone II. (3)** Prerequisite(s): CMET 4272. Utilization of students' previous coursework to creatively investigate and produce solutions for a comprehensive construction management project.

**CMET 4290. Temporary Structures in Construction. (3)** Prerequisite(s): ETCE 3163 and Engineering major or minor. Temporary structures and used to support construction operations such as concrete formwork, scaffolding systems, shoring systems, cofferdams, underpinning, slurry walls, and construction dewatering systems.

**CMET 4401. Construction Internship II. (1)** Prerequisite(s): CMET 1680, CMET 3224; Senior Standing, Civil Engineering Technology or Construction Management major and department approval. The objective of the course is to provide the student with Office and Field experiences in the Engineering and Construction Sector of their choice.

**CMET 4680. Professional Development IV. (1)** Prerequisite(s): Senior standing; and Civil Engineering Technology or Construction Management major. Seminar discussing professional development issues relating to the civil engineering technology and construction management professions. Course includes presentations by industry professionals.

## Construction Engineering (CNGR)

**CNGR 2111. Introduction to Construction Engineering. (2)** Prerequisite(s): Sophomore standing and selection of Construction Engineering Major. An introduction to the Engineering & Construction industry by providing a general overview of the industry and the various career paths that are available within the industry as a whole. Emphasis will be placed on the integration of Civil Engineering and Construction Management in project delivery.

**CNGR 3401. Construction Engineering Internship. (1)** Prerequisite(s): Junior standing in Construction Engineering Major and permission of the Department. The objective of the course is to provide the student with

Office and Field experiences in the Construction Engineering field. Students will complete 400 hours of on-the-job training through an executed agreement with their employer and will be exposed to the following Engineering & Construction Office and Field Topics:

- Civil Engineering Design and Design Administration
- Estimating
- Scheduling
- Construction Means & Methods
- Project Administration
- Construction Project Operations

**CNGR 4272. Capstone. (3)** Prerequisite(s): Senior Standing, Construction Engineering major and permission of the department. Utilization of students' previous coursework to creatively investigate and produce solutions for a comprehensive construction management project. Topics include:

- Knowledge of construction methods, materials, equipment, planning, scheduling, safety, and cost analysis.
- Analysis and design of construction processes and systems in a construction engineering specialty field.
- Basic legal and ethical concepts and the importance of professional engineering licensure in the construction industry;
- Basic concepts of management topics such as economics, business, accounting, communications, leadership, decision and optimization methods, engineering economics, engineering management, and cost control.

# Arts + Architecture (COAA)

**COAA 1101. Student Success in Architecture, Art, Performance, and Design. (2)** Prerequisite(s): COAA freshmen with 0-30 credit hours. An introduction to the critical attributes and skills necessary to be a successful student in architecture, art, performance, and design. The primary structure of the course is predicated on the three learning outcomes associated with the University's Prospect for Success initiative: commitment to success, cultural awareness, and inquiry. *May not be repeated for grade replacement.*

**COAA 3000. Special Topics. (1 to 3)** Course description will depend on the topic submitted. All current university rules for special topics courses apply. *May be repeated with a change of topic.*

**COAA 3150. Musical Theatre History. (3)** Prerequisite(s): Enrollment in Certificate in Music Theatre or permission of instructor. An introduction to Musical Theatre, which surveys the major shows in musical theatre literature, through the study of plots, scores, characters, and songs of the shows. Students explore the genre's place and function in theatre history as both an art form and popular entertainment and its influence on culture in general.

**COAA 3350. Musical Theatre Workshop. (1)** Prerequisite(s): Enrollment in Certificate in Music Theatre or permission of instructor. Corequisite(s): MUSC 1237. A performance-oriented study of musical theatre, composers, and styles. Provides opportunities for students to synthesize and refine musical theatre performance skills, including acting, singing, and dancing. *May be repeated for credit.*

**COAA 4000. Interdisciplinary Topics in Architecture, Art, Performance, and Design. (1 to 5)** Interdisciplinary topics in architecture, art, performance, and design.

**COAA 4001. Special topics courses offered under the College of Arts + Architecture. (3 or 6)** Special topics courses offered under the College of Arts + Architecture. *May be repeated for credit with change of topic.*

**COAA 4800. Independent Study. (1 to 5)** Independent study investigations in architecture, art, performance, and design.

# Communication Studies (COMM)

**COMM 1101. Public Speaking. (3)** For students who want to upgrade their oral communication skills. Opportunity to study theory and practice of public speaking. Special emphasis placed on constructing and delivering speeches.

**COMM 1501. Global Social Science: Global and Intercultural Communication. (3)** General Education Only: Does not count towards Communication Studies major. This Global Theme course uses the methods and insights of the social sciences to explore the central question of what it means to be a citizen of the world. Through the study of one or more different peoples, societies or cultures across the globe, students will be able to better understand themselves as part of complex, interconnected world. Students build intercultural communication competencies, and become responsible global citizens who understand the world from diverse social, political, economic, and historical perspectives.

**COMM 1511. Local Social Science: Health, Well-Being, and Quality of Life. (3)** General Education Only: Does not count towards Communication Studies. This Local Theme course uses the methods and insights of the social sciences to explore the central question of what it means to be a member of a "local" community. Through the study of the experiences of different peoples, cultures, and communities in our city, our region, or our nation, students will be able to better understand the complexity and diversity of the society in which we live. Students examine individual and social aspects of health and well-being as they are shaped in contexts of interpersonal communication, self-care, marginalization, ethics, and media consumption.

**COMM 2050. Topics in Oral Communication. (3)** Timely and important areas relevant to the study and practice of oral communication. *May be repeated for credit with permission of advisor.*

**COMM 2100. Introduction to Communication Theory. (3)** Introduces students to traditional and contemporary theories about human communication processes including the nature of theory building, and major theoretical developments within the field of communication. May not be taken more than twice.

**COMM 2101. Introduction to Rhetorical Theory. (3)** Prerequisite(s): COMM 1101, COMM 2100, COMM 2104, and STAT 1220 or STAT 1222, all with grades of C or above; Communication Studies major. Evolution of rhetorical theory from ancient to modern times and examination of major

rhetorical theorists. Emphasis on using rhetorical theory to better understand contemporary persuasive messages.

**COMM 2102. Advanced Public Speaking. (3)** Prerequisite(s): Communication Studies major or minor; COMM 1101 or permission of instructor. Advanced theory and practice of speaking in public. Research, composition, and delivery of various types of speeches and presentations.

**COMM 2103. Argumentation and Debate. (3)** Cross-listed Course(s): LEGL 2103. Prerequisite(s): Communication Studies major or minor. Introduction to the basic theory and skills of argumentation and debate. Assumptions of argumentation, evidence, reasoning, argument construction, cross-examination, refutation, and ethics included.

**COMM 2104. Communications Studies Foundations. (3)** Prerequisite(s): Communication Studies major. An overview of the Communication Studies discipline. Topics include an exploration of specialization areas in Communication Studies, research and writing in the discipline, career exploration and academic planning.

**COMM 2105. Small Group Communication. (3)** Prerequisite(s): Communication Studies major or minor, Computer Science major, Software and Information Systems major, Pre-Public Health major, or Public Health major. Principles of discussion and deliberation in small groups. Practice in organizing, leading, and participating in various forms of group communication. Emphasis on problem solving and group management.

**COMM 2107. Interpersonal Communication. (3)** Study of the dynamics of one-to-one human communication. The relation of language to human communication, perception and reality, self-concept, nonverbal communication codes, development of trust and self-disclosure, and development of positive communication style.

**COMM 2110. Women and the Media. (3)** Cross-listed Course(s): WGST 2110. Examination of messages about women as conveyed in contemporary media (magazines, newspapers, videos, the Internet, video games, television, and movies.) The role of gender in the power structures of the media producers is also analyzed.

**COMM 2120. Black Images in the Media in the U.S. (3)** Cross-listed Course(s): AFRS 2105. Examination of African American images projected through electronic and print media, historically and currently.

**COMM 2145. Principles of Public Relations. (3)** Prerequisite(s): Communication Studies major or minor; COMM 1101 and COMM 2100; both with grades of C or above. Familiarize students with basic concepts and principles of public relations within the context of communication theory. Acquaints students with the history, functions, roles, social contexts, tools, techniques, and strategies of the profession.

**COMM 2146. Public Relations Ethics. (3)** Prerequisite(s): COMM 1101; COMM 2100; and COMM 2104; all with grades of C or above; Communication Studies major. Explores strategies for creating and maintaining an ethical organizational culture and models for determining the ethicality of various public relations actions. Students learn how to articulate persuasive arguments for ethical public relations decisions, as well as understanding laws pertaining to unethical public relations practices.

**COMM 3050. Topics in Communication Studies. (1 to 3)** Timely and important areas relevant to communication studies. *May be repeated for credit with permission of advisor.*

**COMM 3051. Topics in Health Communication. (3)** Prerequisite(s): COMM 3115 or AFRS 2170. Cross-listed course(s): HHUM 3020. Timely and important areas relevant to the study of health communication. *May be repeated for credit with permission of advisor.*

**COMM 3052. Topics in Media & Technology Studies. (3)** Prerequisite(s): COMM 3120. Cross-listed course(s): HHUM 3020. Timely and important areas related to media and technologies. Topics will include various contexts in which media and technologies are related to societal issues of concern. *May be repeated for credit with permission of advisor.*

**COMM 3053. Topics in Rhetoric, Culture, and Social Change. (3)** Timely and important areas relevant to the study of rhetoric, culture and social change. *May be repeated for credit with permission of the major advisor.*

**COMM 3054. Topics in Organizational Communication. (3)** Prerequisite(s): COMM 3141. Timely and important areas relevant to the study of organizational communication. *May be repeated for credit with permission of advisor.*

**COMM 3055. Topics in Public Relations. (3)** Prerequisite(s): COMM 2145. Timely and important areas relevant to the study of public relations. *May be repeated for credit with permission of advisor.*

**COMM 3056. Topics in Communication Studies. (3)** Timely and important areas relevant to communication studies. *May be repeated for credit with permission of the major advisor.*

**COMM 3100. Communication Research Methods. (3)** Prerequisite(s): COMM 1101; COMM 2100; COMM 2104; and STAT 1220 or STAT 1222; all with a grade of C or above; Communication Studies major. Methods for systematic investigation of communication behavior in all primary communication contexts, including utilization of library materials and quantitative and qualitative techniques for data analysis.

**COMM 3101. Persuasion. (3)** Prerequisite(s): COMM 1101; COMM 2100; COMM 2104; and STAT 1220 or STAT 1222; all with a grade of C or above; Communication Studies major. Emphasis on the theory and practice of persuasion. Topics include: attitude modification, theories of persuasion, source credibility, persuasive strategies, ethics, and audience analysis.

**COMM 3110. Gender and Communication. (3)** Cross-listed Course(s): WGST 3110. Examination of the relationship between language and gender. Topics include: how language shapes perceptions of men/women; gender differences in verbal and nonverbal communication; and gendered communication in relationships, friendships, and the workplace.

**COMM 3115. Health Communication. (3)** Prerequisite(s): COMM 2100 with a grade of C or above, or HLTH 2101 or AFRS 2170. Introduction to human communication in a healthcare context. Issues of social support, patient-health professional/caregiver interaction, organizational

culture, planning health promotion campaigns, and cultural conceptions of health and illness.

**COMM 3120. Media, Technology & Communication. (3)** Prerequisite(s): COMM 2100 with a grade of C or above. A survey of the function and history of various types of media and technologies as forms of communication, their influence upon society, and the legal and economic environments in which they operate. Students will gain a broad overview of how media and technologies affect communication and our lives.

**COMM 3121. Mass Communication and Society. (3)** Examines important issues involving mass communication. Critical study of the effect mass communication exacts on society.

**COMM 3125. New Media for Communications**. (3) Examines the theoretical perspectives and practical skills necessary to create and design content using digital tools. Course covers components of digital media including designing, writing and communication through the web, creating and editing online podcasts and original creation of online digital video.

**COMM 3126. Globalization and Digital Media. (3)** An analysis of the role and impact of digital media on globalization. The course considers how the internet and social networks have changed our connection from a physical global society to a virtual culture and explores the ways in which digital communication has fostered the globalization of artistic styles, cultural forms, political relationships and economic transactions.

**COMM 3130. Rhetoric and Public Culture. (3)** Prerequisite(s): COMM 2100 with a grade of C or above. Examination of how and why rhetoric is deployed in various social, cultural, and political contexts to create meaning; emphasis is on both applied and theoretical perspectives of public discourse.

**COMM 3131. Black Culture and Communication. (3)** Analysis of Black culture through primary texts and communication practices to explore strategies of community building and social change.

**COMM 3135. Leadership, Communication, and Group Dynamics. (3)** Study of leadership theories, behaviors, and group processes. Emphasis on group dynamics in organizations and the role of the leader. Assessment of leadership style.

**COMM 3136. Leadership, Service, and Ethics. (3)** Leadership issues facing our society, the role of values and ethics in leadership, and servant leadership.

**COMM 3141. Organizational Communication. (3)** Cross-listed Course(s): LEGL 3141. Prerequisite(s): COMM 2100 with a grade of C or above. Examines the importance of the operation of communication processes within organizations and between organizations and their environments.

**COMM 3142. Applications in Organizational Communication. (3)** Prerequisite(s): Communication Studies major; and COMM 3141 or permission of instructor. Application of the principles, theory, and concepts of organizational communication to organizational settings. Explores how organizational theories are realized in everyday organizational life through case studies, interviews, various research methodologies, assessments, and evaluations.

**COMM 3160. Business Communications. (3)** Prerequisite(s): INFO 2130 and Junior or Senior standing. The nature and problems of individual, interpersonal and organizational communication in business. Various verbal techniques such as business presentations and writing will be developed and practiced for effective organizational and individual performance.

**COMM 3245. Public Relations Writing. (3)** Prerequisite(s): Communication Studies major, COMM 1101, COMM 2100, and COMM 2104, all with a grade of C or above; and JOUR 2160. Instruction and writing practice designed to develop the professional-level writing skills expected of entry-level public relations practitioners. Extensive writing exercises in preparing plans, releases, newsletters, brochures, web pages, media kits and other public relations products. Individual and group projects required.

**COMM 3403. Forensics Practicum. (2)** Prerequisite(s): COMM 2103 or equivalent and permission of instructor. Application of forensics principles and practices as a member of the UNC Charlotte Forensics Team. Research, message construction, practice, and tournament competition are required. No more than four hours of COMM 3403 may be used toward requirements for the minor. *May be repeated for credit up to four times.* No more than four hours of COMM 3403 may be used toward requirements for the minor.

**COMM 3790. Honors Thesis I. (3)** Prerequisite(s): Permission of instructor. Initiation of independent Honors research, including the preparation and defense of a formal thesis proposal.

**COMM 3791. Honors Thesis II. (3)** Prerequisite(s): COMM 3790; permission of instructor; and approval of a proposal through the Honors College Application to Candidacy process the semester prior to taking the course. Completion of independent Honors research, including the preparation and defense of a formal Honors thesis.

**COMM 3880. Independent Study. (1 to 3)** Prerequisite(s): COMM 1101, permission of instructor and major advisor. Area of study beyond the scope of current offerings to be devised by student and faculty member. *May be repeated for credit.* Three hours of COMM 3880 may be used toward the minor with prior approval of the department chairperson.

**COMM 4050. Topics in Communication Studies. (3)** Timely and important areas relevant to communication studies. *May be repeated for credit with permission of advisor.*

**COMM 4141. Advanced Organizational Communication. (3)** Prerequisite(s): Communication Studies major; COMM 1101; COMM 2100; COMM 2104; and STAT 1220 or STAT 1222; all with a grade of C or above; and COMM 3141. Critical examination of the communication practices of organizations which accomplish such tasks as establishing organizational identification, influencing organizational members, and making decisions. Includes application of research methods to assess and analyze an organization's communication practices.

**COMM 4145. Communication Campaigns. (3)** Prerequisite(s): Communication Studies major, COMM 1101; COMM 2100; COMM 2104; and STAT 1220 or STAT 1222; all with a grade of C or above; and COMM

2145, and COMM 3245. Lectures, workshops, and guest speakers provide knowledge to enable students to research, design, implement, and complete public relations projects for community-based, not-for-profit organizations. The course is structured and run in a manner similar to a professional public relations agency with students assuming appropriate agency roles. *May be repeated one time.*

**COMM 4147. International Public Relations. (3)** Prerequisite(s): Communication Studies major and COMM 2145. Examines the complexities of public relations practice in an international setting. Includes overview of the factors that complicate communication across cultures and borders and an examination of the effect those factors have on public relations practice in specific global regions.

**COMM 4410. Professional Internship. (3 or 6)** Prerequisite(s): Junior or Senior standing, Communication Studies major/minor or Journalism minor, and 2.0 GPA in all coursework in the major or minor. Students work 8-10 hours per week (total 120 hours per semester) for 3 credit hours, or 16-20 hours (total 240 hours per semester) for 6 credit hours in an approved placement. *May be repeated for credit in a different internship placemen with permission of advisor and the Communication Studies Internship Coordinator. Graded on a Pass/No Credit basis.*

**COMM 4445. International Professional Internship. (3 or 6)** Prerequisite(s): Junior or Senior standing, Communication Studies major, and 2.0 GPA in all coursework in the major. Similar to COMM 4410 (Professional Internship) but internship placements are with organizations reflecting a significant global/international component or focus. As with COMM 4410, students work 8-10 hours per week (total 120 hours per semester) for 3 credit hours, or 16-20 hours (total 240 hours per semester) for 6 credit hours in an approved placement. *May be repeated for credit in a different internship placement with permission of advisor and the Communication Studies Internship Coordinator. Graded on a Pass/No Credit basis.*

**COMM 4615. Seminar in Health Communication. (3)** Prerequisite(s): COMM 1101; COMM 2100; COMM 2104; and STAT 1220 or STAT 1222; all with a grade of C or above; and COMM 3115; and Communication Studies major. Course provides in-depth examination of a major area of health communication utilizing extensive readings, discussion and written work.

**COMM 4652. Advanced Seminar in Media & Technology Studies. (3)** Prerequisite(s): COMM 1101; COMM 2100; COMM 2104; and STAT 1220 or STAT 1222; all with a grade of C or above; and COMM 3120.; Communication Studies major or minor. Examines through the seminar format specific topics in media and technology studies. *May be repeated for credit with change in topic.*

# Critical Thinking and Communication (CTCM)

**CTCM 2530. Interdisciplinary Critical Thinking and Communication. (3)** Prerequisite(s): Sophomore standing or higher; and WRDS 1103 or WRDS 1104. Part of an integrated First-Year Writing and Theme curriculum that develops critical thinking and communication competency. Students undertake an interdisciplinary inquiry process and build towards the preparation of a polished product at the end of the semester. The specific subject matter for sections of this course vary since the focus is on developing competencies. *May not be taken for credit and for a grade if credit has been received for LBST 2301.*

# Urban Youth and Communities (CUYC)

**CUYC 3600. Community Engagement Capstone Seminar. (3) (SL)** Provides a culminating and comprehensive experience for students in the Minor in Urban Youth and Communities. Students synthesize the interdisciplinary theory and experiential learning around urban youth and education, communities, and social justice into a comprehensive community and school-based project lead by the student using practices of participatory action research.

# Dance (DANC)

**DANC 1108. Yoga. (2)** Introduction and practice of yoga, especially as it relates to dance training. Students condition the body and mind through the physical and intellectual practice of yoga. Course content includes learning and executing corporeal postures, breath work, and mental focusing exercises. By the end of this course, students will have built upon their individual measures of strength, flexibility, and balance, as well as gained mental clarifying and stress-relieving techniques. *May be repeated for credit.*

**DANC 1109. Pilates. (2)** Introduction to the fundamentals of the Pilates method with emphasis on core stability, breathing, and body alignment. *May be repeated for credit.*

**DANC 1110. Dance Explorations. (1)** Engagement in a variety of dance practices through peer-led experiences in a studio setting with emphasis on developing movement skills and artistry. *May be repeated for credit.*

**DANC 1209. Ballet for Majors IA. (2)** Prerequisite(s): Dance major or permission of instructor. The study of classical ballet technique at the beginning level, focusing on the following movement concepts as they are performed and understood in ballet: alignment, shift of weight, external rotation (turn-out). This course assumes students have some previous experience studying ballet technique. *May be repeated for credit.*

**DANC 1210. Ballet for Majors IB. (2)** Prerequisite(s): DANC 1209 with grade of C or above, or permission of instructor. Continuation of the study of classical ballet technique at the beginning level, focusing on the following movement concepts as they are performed and understood in ballet: alignment, shift of weight, external rotation (turn-out). This course assumes students have some previous experience studying ballet technique. *May be repeated for credit.*

**DANC 1212. Ballet I. (2)** An introduction to the fundamentals of classical ballet technique, focusing on proper alignment and use of external rotation (turn-out), as well as basic body positions and ballet vocabulary. Recommended for students with no prior experience in ballet. Open to all University students. *May be repeated for credit.*

**DANC 1213. Ballet II. (2)** Prerequisite(s): DANC 1212 or permission of instructor. A continuation of the fundamentals of classical ballet technique, focusing on proper alignment and use of external rotation

(turn-out), as well as basic body positions and ballet vocabulary. Open to all University students. *May be repeated for credit.*

**DANC 1214. Modern Dance I. (2)** Introduction to modern dance styles for beginners. Elementary modern dance concepts are introduced, including floorwork, standing exercises, and locomotor patterns. Students learn, embody, and demonstrate basic movement vocabulary in a dance studio setting. Body alignment, placement, strength, flexibility and coordination are addressed. Students explore modern dance as a creative practice and artistic expression. Specific modern technique or style varies per instructor. Recommended for students with no prior experience in modern dance. Open to all University students. *May be repeated for credit.*

**DANC 1215. Modern Dance II. (2)** Prerequisite(s): DANC 1214 or permission of instructor. A continuation of the fundamentals of modern dance, focusing on alignment, placement, strength, flexibility and coordination. Modern dance concepts are further developed through floorwork, standing exercises, locomotor patterns, and extended combinations in center. Students explore modern dance as a creative practice and artistic expression. Specific modern technique or style varies per instructor. Open to all University students. *May be repeated for credit.*

**DANC 1217. Modern Dance for Majors IA. (2)** Prerequisite(s): Dance major or permission of instructor. Basic modern dance concepts are introduced, including floorwork, standing exercises, and locomotor patterns. Students learn, embody, and demonstrate beginning-level movement vocabulary in a dance studio setting. Body alignment, placement, strength, flexibility and coordination are addressed. Students explore modern dance as a creative practice and artistic expression. Specific modern technique or style varies per instructor. *May be repeated for credit.*

**DANC 1218. Modern Dance for Majors IB. (2)** Prerequisite(s): DANC 1217 with grade of C or above, or permission of instructor. Basic modern dance concepts continue to be explored, including floorwork, standing exercises, and locomotor patterns. Students continue to learn, embody, and demonstrate beginning-level movement vocabulary in a dance studio setting. Body alignment, placement, strength, flexibility and coordination are addressed. Students explore modern dance as a creative practice and artistic expression. Specific modern technique or style varies per instructor. *May be repeated for credit.*

**DANC 1280. Improvisation. (3)** Prerequisite(s): Dance major or minor, or permission of instructor. Exploration of body movement in energy, time, and space to build an awareness of the ways dance movement is created and expressed individually and collaboratively. Students learn, embody, practice, demonstrate, and observe improvisational dance skills in a studio setting and reflect on their learning. Students explore dance as a multifaceted art form, cultural practice, and area of study that encompasses many perspectives; identify individual interests and goals, campus and community resources, and interdisciplinary opportunities; and develop habits of inquiry and critical thinking in dance. This course addresses Prospect for Success Student Learning Outcomes.

**DANC 1502. Global Arts/Humanities: Dance in Global Contexts. (3)** All Global Theme courses explore the central, unifying question of what it means to be a citizen of the world. Through the study of one or more different peoples, societies or cultures across the globe, students will be able to better understand themselves as part of a complex, interconnected world. We learn about how Indigenous dance forms, concert dance, social dance, and popular entertainment dance reflect dance traditions around the world within arts and the humanities, performance studies, religious studies, and critical cultural studies as they relate to the evolution of various dance practices. We situate dance within socio-political issues evidenced in choreography through lectures, discussion, film/video, and live dance performance. *May not be taken for credit and for a grade if credit has been received for LBST 1101.*

**DANC 1512. Local Arts/Humanities: Dance in the United States (3)** All Local Theme courses explore the central, unifying question of what it means to be a member of the "local" community in which we live. Through the study of the experiences of different peoples, cultures, and communities in our city, our region, or our nation, students will be able to better understand themselves in the context of the complex and diverse society in which we live. We reflect on topics such as Indigenous practices, social justice, immigration/ migration studies, and critical cultural studies as they relate to the evolution of dance in the United States across theatrical, social, competitive, and musical theatre contexts. We situate dance within the American context as evidenced in choreography through lectures, discussion, film/video, and live dance performance.

**DANC 2016. Choreographic Analysis. (3)** Prerequisite(s): Dance major, DANC 1280, or permission of instructor. Study of the form and content of choreographic dance works through observation, description, technical analysis, interpretation, and evaluation. Crafting tools and aesthetic communication is examined through daily guided discussion, formal debate, oral project presentation, and writing.

**DANC 2119. Anatomy for Dancers. (3)** Prerequisite(s): Dance major or minor, or permission of instructor. Experiential anatomy class that explores basic anatomy, movement, and somatic principles. Students learn to sense and assess the body holistically. With embodied learning students can make choices that integrate the body for efficient ways of moving and expression.

**DANC 2125. African Dance. (2)** An introduction to the practice of selected African traditional dance styles in terms of cultural context, function, and form. *May be repeated for credit.*

**DANC 2126. Tap Dance. (2)** An introduction to tap dance. Students establish a foundational understanding of tap dance technique, improvisation, and collaboration. *May be repeated for credit.*

**DANC 2127. Latin Dance Forms. (2)** An introduction to traditional Latin dances such as Salsa, Bachata, Merengue and Cumbia. Students engage in partnering sequences through the exploration of Latin Dance as a social dance form. *May be repeated for credit.*

**DANC 2128. Afro-Brazilian Dance. (2)** Exploration of dances from the northeastern regions of Brazil. Students engage in movement practice, discussion, writing reflections, performance and research to gain both physical and cultural understandings of African-Brazilian dances. *May be repeated for credit.*

**DANC 2129. Odissi Dance. (2)** Introduces the basic elements of curvilinearity, sculptural geometry, rhythm, and musicality of an Eastern

Indian classical dance called Odissi. Odissi is a globally popular form presented at concerts, cultural events, and community celebrations.

**DANC 2130. Foundations of Hip Hop Dance. (2)** Students experience the history, terminology, and technique of Hip Hop Dance through dancing, observation, research, discussion, and choreography. Students will also explore the culture and music of hip hop and other related styles of dance such as jazz funk and house dance. Previous movement training is recommended but not required. *May be repeated for credit with permission of instructor.*

**DANC 2209. Ballet for Majors IIA. (2)** Prerequisite(s): DANC 1210 with grade of C or above, or permission of instructor. The study of classical ballet technique at the beginning/intermediate level, focusing on the following movement concepts as they are performed and understood in ballet: alignment, shift of weight, external rotation (turn-out), jumping concepts, turning concepts. *May be repeated for credit.*

**DANC 2210. Ballet for Majors IIB. (2)** Prerequisite(s): DANC 2209 with grade of C or above, or permission of instructor. A continuation of the study of classical ballet technique at the beginning/intermediate level, focusing on the following movement concepts as they are performed and understood in ballet: alignment, shift of weight, external rotation (turn-out), jumping concepts, turning concepts. *May be repeated for credit.*

**DANC 2216. Choreography I. (3)** Prerequisite(s): DANC 1210, DANC 1217, and DANC 1280; or permission of instructor. Exploration of fundamental elements, concepts, and crafting tools for composing dance. Concert dance and site-specific choreography may be explored. Four contact hours plus a minimum of 2-3 hours lab time.

**DANC 2217. Modern Dance for Majors IIA. (2)** Prerequisite(s): DANC 1218 with grade of C or above, or permission of instructor. Beginning/Intermediate Modern dance technique. Modern dance concepts are explored including floorwork, standing exercises, and locomotor patterns. Students continue to learn, embody, and demonstrate beginning/intermediate-level movement vocabulary in a dance studio setting. Body alignment, placement, strength, flexibility and coordination are addressed. Students explore modern dance as a creative practice and artistic expression. Specific modern technique or style varies per instructor. *May be repeated for credit.*

**DANC 2218. Modern Dance for Majors IIB. (2)** Prerequisite(s): DANC 2217 with grade of C or above, or permission of instructor. Intermediate Modern dance technique. Intermediate modern dance concepts are explored, including floorwork, standing exercises, and locomotor patterns. Students continue to learn, embody, and demonstrate intermediate-level movement vocabulary in a dance studio setting. Body alignment, placement, strength, flexibility and coordination are addressed. Students explore modern dance as a creative practice and artistic expression. Specific modern technique or style varies per instructor. *May be repeated for credit.*

**DANC 2226. Vernacular Jazz Dance. (2)** Traces the development of jazz dance from folk beginnings to the present. Explores vernacular jazz dance based in African/African-American roots as well as the contemporary or applied aspects of jazz dance. Students will examine the role that vernacular dance and music play in the creation of jazz dance, as well as exploring European influence on African and Latin-based diasporic dances. Includes improvisation, center work, and performance techniques. *May be repeated for credit.*

**DANC 2227. Contemporary Jazz Dance. (2)** Prerequisite(s): Dance major or minor (others by permission of instructor), and some dance training required. Examination of selected contemporary jazz styles from the 20th and 21st centuries. Students engage in physical, intellectual, and creative practice of contemporary jazz dance. *May be repeated for credit.*

**DANC 2228. Music and Dance. (2)** Prerequisite(s): DANC 1210, DANC 1217, and DANC 1280; or permission of instructor. Applied study of music as it supports dance education and choreographic and performance practices. This course is an extended study of music theory. It also investigates music as a structural, aesthetic, and cultural aspect of dance. Explores rhythm as a basis for movement and choreography. Embodiment is stressed through exercises in dance teaching, choreography, and step dance or Stomp-style performances.

**DANC 2401. Production Practicum - Dance Running Crew. (1)** Practical application of production work in the areas of scenery, lighting, sound, costuming, properties, and stage management. *May be repeated for credit.*

**DANC 2402. Performance Practicum. (2)** Prerequisite(s): Audition. Corequisite(s): Any dance technique course. Practical application of performance techniques within a production setting, including auditions, rehearsals, and performances. *May be repeated for credit.*

**DANC 2403. Dancing for Choreographers. (1)** Corequisite(s): any level of technique course (DANC 1209, DANC 1210, DANC 1217, DANC 1218, DANC 2209, DANC 2210, DANC 2217, DANC 2218, DANC 3210, or DANC 3218). Experience in rehearsal and performance with faculty member or in conjunction with student choreographers. *May be repeated for credit.*

**DANC 2404. Introduction to Dance Production. (3)** Overview of all production arts areas: stage management, lighting, scenic, sound, and costumes with application of hands-on skills as running crew for the Dance Concert.

**DANC 3100. Pointe. (2)** Prerequisite(s): DANC 2209. Corequisite(s): A ballet technique course at the 2000 level or above, or permission of instructor. The study of pointe technique at the beginning level, focusing on how proper ballet alignment supports pointe work, building the strength required to execute pointe technique, and developing pointe vocabulary in a progression from barre work to center work. *May be repeated for credit up to 8 times.*

**DANC 3131. Hip Hop and Street Dance. (2)** Prerequisite(s): DANC 2130. A continuation of the historical foundations and physical techniques of Hip Hop Dance introduced in Foundations of Hip Hop Dance. Students will develop intermediate to advanced level technical ability in the movement vocabulary and aesthetic principles associated with particular foundational and/or contemporary choreography at a professional level. *May be repeated for credit up to 7 times.*

**DANC 3201. Professional Training Certificate in Dance. (4)** Prerequisite(s): Audition or permission of department. Both DANC 3201 and DANC 3202 must be taken sequentially during the same academic year. First year of a two-year program of pre-professional technical dance

training in ballet, performance experience, and professional dance company observation with the Charlotte Ballet. Emphasis on advanced pointe work for women and men's grande allegro work.

**DANC 3202. Professional Training Certificate in Dance. (4)** Prerequisite(s): DANC 3201 and audition at Charlotte Ballet. Both DANC 3201 and DANC 3202 must be taken sequentially during the same academic year. Second semester of a two-year program of pre-professional technical dance training in ballet, performance experience, and professional dance company observation with the Charlotte Ballet. Emphasis on advanced pointe work for women and men's grande allegro work.

**DANC 3210. Ballet for Majors III. (2)** Prerequisite(s): DANC 2210 with grade of C or above, or permission of instructor. The study of classical ballet technique at the intermediate/advanced level, focusing on the following movement concepts as they are performed and understood in ballet: alignment, shift of weight, external rotation (turn-out), jumping concepts, turning concepts. Additional focus on musicality and artistry. *May be repeated for credit.*

**DANC 3214. Contemporary Dance. (2)** Prerequisite(s): DANC 2209 or DANC 2210; DANC 2217 or DANC 2218; DANC 2125 or DANC 2128; Two courses from the following: DANC 2127, DANC 2130, DANC 2226. Intermediate/advanced contemporary dance integrating classical and technical dance forms and movement practice styles with improvisational practices. Class sessions include conditioning, stretching, and movement exercises that culminate in the performance of complex combinations. Students strengthen muscle memory, enhance aesthetic and kinesthetic awareness, and refine musicality across genres to cultivate a dynamic and expressive movement vocabulary. *May be repeated for credit.*

**DANC 3218. Modern Dance for Majors III. (2)** Prerequisite(s): DANC 2218 with grade of C or above, or permission of instructor. Intermediate/Advanced modern dance technique. Intermediate and advanced modern dance concepts are explored, including floorwork, standing exercises, and locomotor patterns. Students continue to learn, embody, and demonstrate intermediate/advanced-level movement vocabulary in a dance studio setting. Body alignment, placement, strength, flexibility and coordination are addressed. Students explore modern dance as a creative practice and artistic expression. Specific modern technique or style varies per instructor. *May be repeated for credit.*

**DANC 3221. Dance History, Theory, and Critical Thinking. (3)** Exploration of dance traditions through critical reading, research, and writing, emphasizing anthropological and historical approaches. Covers a broad range of dance across concert, social, and ritual traditions from different parts of the world.

**DANC 3222. Dance History, Theory, and Critical Thinking II. (3)** Exploration of dance as means of personal expression, focusing on critical evaluation, discussion, and written analysis of dances through aesthetic and theoretical approaches. Covers a broad range of dance across concert, social, and ritual traditions from different parts of the world.

**DANC 3227. Ballet Pedagogy. (3)** Prerequisite(s): DANC 2119 and DANC 2210; Dance major or permission of instructor. Methods and resources in the teaching of ballet techniques for young dancers. How, why, and when to teach the ballet vocabulary. Integration of concepts of anatomy, kinesiology, physics and the laws of motion and musical accompaniment.

**DANC 3229. Contact Improvisation. (2)** Pre- or Corequisite(s): DANC 1217, DANC 1218, or DANC 1280; or permission of instructor. Experiential exploration of basic concepts of contact improvisation including falling and rolling to the floor, and partnering skills of weight sharing and lifting. Focus on developing highly attuned body awareness in relation to earth, gravity, and connection to others. Students learn, embody, practice, and demonstrate contact improvisational dance skills in a studio setting. *May be repeated for credit.*

**DANC 3230. Choreography II. (3)** Prerequisite(s): DANC 2216. Focuses on the development of dance composition concepts and methods. Students use dance and the choreographic process as modes of thinking to investigate ideas and conduct creative research. Four contact hours plus a minimum of 2-3 hours lab time. *May be repeated for credit.*

**DANC 3231. Choreography in Context: Danced Collaborations in Urban Spaces. (3)** Prerequisite(s): DANC 2216. Examines ways in which we can make art in the context of our physical environments, audiences, and communities, specifically through the processes of site-specific work and community collaborations. The practice of improvisation as a process and product for making dance and performance are deeply investigated. Drawing on the history and methodologies of improvisation, site-specific, and community-centered artists, students build a foundation for and develop their creative skill sets as they improvise, make, and perform dances outside the traditional theatre space. *May be repeated for credit.*

**DANC 3232. Digital Skills for Artists. (3)** An interdisciplinary course that provides students with the tools to work with digital design and marketing, visual communications, sound editing, and video production. Students learn the basics of effective visual communications, produce visual content and learn to edit videos and photos for online viewing, and become versed in the fundamentals of sound creation and editing. The course culminates in the production of a professional website using digital skills and media tools practiced throughout the semester.

**DANC 3253. Black Dance in the Americas. (2)** Prerequisite(s): DANC 2226; and DANC 2125 or DANC 2128. Explores the function, consciousness, history, application, and movement aesthetics of black dance in the Americas. Examines the origins of various dances of the African diaspora that influence American culture. Also examined are popular types of dance, including the Charleston, tap, salsa, rumba, and the limbo. This is a movement-based course in which students also engage in discussions, movement analysis, and critique.

**DANC 3402. Advanced Performance Practicum. (2)** Prerequisite(s): two semesters of DANC 2402; Junior or Senior standing; priority given to students accepted into Advanced Dance Studies Certificate Program. An advanced creative process experience for Certificate students. Students may engage in the course as a Rehearsal Director, Research Assistant, or other leadership role. *May be repeated for credit.*

**DANC 4001. Topics in Dance. (1 to 3)** Special topic in dance. *May be repeated for credit with change in topic.* Two to six contact hours.

**DANC 4110. Communicating Across the Dance Discipline. (3)** Prerequisite(s): DANC 3221, DANC 3222, Senior standing, and Dance major or minor. Sources from across the dance discipline and related professional communication are used as a basis for research, discussion, writing, and professional presentation.

**DANC 4130. The Business of Dance. (3)** Prerequisite(s): Dance Major; Completion of the Movement Practices Core. Exploration of dance-making as a business in order to equip students with professional skills that will aid in their success in dance as a career path. Students investigate the dance field at the intermediate-advanced skill level and develop specific tools in preparation for auditions, performances, and interactions with agents and choreographers.

**DANC 4201. Professional Training Certificate in Dance. (4)** Prerequisite(s): DANC 3202 and audition at Charlotte Ballet. Third semester of a two-year program of pre-professional technical dance training in ballet, performance experience, and professional dance company observation with the Charlotte Ballet. Emphasis on classical and contemporary variations for women and partnering skills for men. Both DANC 4201 and DANC 4202 must be taken sequentially during the same academic year.

**DANC 4202. Professional Training Certificate in Dance. (4)** Prerequisite(s): DANC 4201 and audition at Charlotte Ballet. Fourth semester of a two-year program of pre-professional technical dance training in ballet, performance experience, and professional dance company observation with the Charlotte Ballet. Emphasis on classical and contemporary variations for women and partnering skills for men. Both DANC 4201 and DANC 4202 must be taken sequentially during the same academic year.

**DANC 4227. Dance Education Methods for the Elementary School. (3)** Prerequisite(s): DANC 1209; DANC 1217; DANC 1280; EDUC 1100 or EDUC 1511; SPED 2100; meet requirements for the Praxis Core Test; Criminal Background Check; and accepted application to the College of Education; or permission of instructor. Examination and application of theories and practices for teaching standards-based dance education in grades K-5 with emphasis on arts integration pedagogy. Students plan, deliver, and assess instruction and reflect on their experiences. Includes observation and teaching in an elementary school setting.

**DANC 4250. Dance in Community. (3)** Students learn to develop relevant lesson plans for teaching community members and facilitate a series of dance classes under the direction of faculty. Designed to train students to successfully enter and exit community programming and/or projects utilizing various dance forms. Students focus on developing tools needed to enter communities and create liaisons through research and interpersonal skills.

**DANC 4252. Origins of Jazz: Ring Shout Dance Traditions. (3)** Pre- or Corequisite(s): DANC 2125 or DANC 2128; and DANC 2226; or permission of instructor. A research-based course focused on investigation and the analysis of traditional Ring Shout movements created and preserved by the enslaved African Americans of the U.S. Students engage in research of the history, structure, traditions, culture, songs, rhythms and movements of the Ring Shout. Students work in groups, complete research papers, analyze movements via photos and vi31deos, reconstruct movement through physical participation, engage in ethnographic field studies, and more.

**DANC 4257. Dance Education Methods for the Secondary School. (3)** Prerequisite(s): DANC 1209; DANC 1217; DANC 1280; EDUC 1100 or EDUC 1511; SPED 2100; meet requirements for the Praxis Core Test; Criminal Background Check; and accepted application to the College of Education; or permission of instructor. Examination and application of theories and practices for teaching standards-based dance education in grades 6-12 with emphasis on engaging all learners in creative processes. Students plan, deliver, and assess instruction and reflect on their experiences. Includes observation and teaching in a secondary school setting.

**DANC 4328. Teaching Dance: Theories and Practices. (3)** Prerequisite(s): DANC 1280, DANC 2119, and four dance movement practice courses; or permission of instructor. Examination and application of diverse theories and practices for teaching dance movement practices in a studio setting with emphasis on developing movement skills and artistry for the beginning dancer. Students plan, deliver, and assess instruction and reflect on their experiences. Includes weekly observation and teaching in a dance setting.

**DANC 4400. Internship in Dance. (1 to 6)** Prerequisite(s): Minimum 2.5 GPA, Junior or Senior standing, and permission of department chair. Research and/or in-service training for dance majors and minors in cooperating organizations. Specific content is based upon a contract between the students department and professional organization. *Graded on a Pass/No Credit basis.*

**DANC 4401. Dance Teaching Practicum. (2)** Prerequisite(s): Junior or Senior standing; priority given to students accepted into Certificate in Advanced Dance Studies program; by permission only. An exploration of philosophies about and methods used to teach dance courses. *May be repeated for credit.*

**DANC 4402. Choreography III: Choreography and Production Practicum. (3)** Prerequisite(s): DANC 3230; Application. Engagement in the creative process of dance-making through development, rehearsal, feedback, and refinement of original choreography for public performance, alongside the production process of planning, collaborating, and executing design, production, and stage management tasks to produce a dance concert. *May be repeated for credit for new choreography project.*

**DANC 4466. Dance Curriculum Design. (3)** Prerequisite(s): DANC 4227 and DANC 4257. To be taken during the first semester of the Year-Long Internship. Development of units of dance study aligned with state and national curriculum standards based on the needs, interests, and cultural context of the dance program at the student teaching site. Reflection on the role of dance education within a school arts program and the role of dance educators in supporting student development. Course requirements include the development of a draft teaching portfolio aligned with a national teacher assessment instrument. Clinical requirements include one day per week of teaching and observation in the student teaching placement site.

**DANC 4467. Student Teaching/Seminar: K-12 Fine and Performing Arts: Dance. (12)** Prerequisite(s): Approved application for student teaching from the College of Education; Senior standing; completion of professional education requirements and all coursework; GPA of 2.75 or above in all required Concentration in Dance Education courses; grades of C or above in all courses required for the concentration by the

Department of Dance and College of Education; and an overall GPA of 2.5 or above. Corequisite(s): Enrollment only in student teaching; additional classes may not be taken while student teaching. A planned sequence of experiences in the student's area of specialization conducted in an approved school setting under the supervision and coordination of a University Supervisor and a Cooperating Teacher in an appropriate grade level and approved school setting in which the student demonstrates the competencies identified for their specific teaching field in alignment with state and national standards. Participating students pay a course registration fee for edTPA portfolio assessment. *Graded on a Pass/No Credit basis.*

**DANC 4800. Dance Capstone Project. (3)** Prerequisite(s): DANC 4110 with a grade of B or above for the written project proposal; grades of C or above in all dance courses; and acceptance into Certificate in Advanced Dance Studies program. Certificate in Advanced Dance Studies students complete their study with an individual project in consultation with a faculty mentor.

**DANC 4801. Independent Study. (1 to 6)** Prerequisite(s): Permission of department chair. An individual project course for Dance majors. *May be repeated for credit.*

**DANC 4802. Applied Dance Capstone. (1)** Prerequisite(s): Senior standing. Creation of a culminating project that investigates and articulates the connections between dance and another career field of study that the student has undertaken at UNC Charlotte.

# Data Science (DTSC)

**DTSC 1301. Data and Society A. (3)** Corequisite(s): DTSC 1302; and STAT 1220, STAT 1221, or STAT 1222. An introduction to data acquisition, models, and analytic methods for interpreting data and developing hypotheses in the context of the interdisciplinary field of Critical Data Studies. Critical Data Studies seeks to track, analyze, and transform the use of large data sets across a variety of domains, including the health sciences, security and surveillance technologies, social media, marketing and business, government and public policy, and other uses of aggregative and algorithmic data science. With resources from Critical Data Studies, students learn how to use statistical methods/tools and scripting programming languages to explore social problems and the ethical implications of collecting and using tabular data. *Graded on a Pass/No Credit basis.*

**DTSC 1302. Data and Society B. (3)** Corequisite(s): DTSC 1301; and STAT 1220, STAT 1221, or STAT 1222. An introduction to data acquisition, models, and analytic methods for interpreting data and developing hypotheses in the context of the interdisciplinary field of Critical Data Studies. Critical Data Studies seeks to track, analyze, and transform the use of large data sets across a variety of domains, including the health sciences, security and surveillance technologies, social media, marketing and business, government and public policy, and other uses of aggregative and algorithmic data science. With resources from Critical Data Studies, students learn how to use statistical methods/tools and scripting programming languages to explore social problems and the ethical implications of collecting and using tabular data.

**DTSC 2301. Modeling and Society A. (3)** Prerequisite(s): DTSC 1302 with a grade of C or above; and STAT 1220, STAT 1221, or STAT 1222. Corequisite(s): DTSC 2302. In this studio, students learn how to use statistical methods/tools and query languages on relational databases to explore a data science approach to socially relevant challenges associated with a social science discipline. Ethical implications of collecting and using data from external sources are also discussed.

**DTSC 2302. Modeling and Society B. (3)** Prerequisite(s): DTSC 1301; DTSC 1302; and STAT 1220, STAT 1221, or STAT 1222. Corequisite(s): DTSC 2301. In this studio, students learn how to use statistical methods/tools and query languages on relational databases to explore a data science approach to socially relevant challenges associated with a social science discipline. The ethical implications of collecting and using data from external sources are also discussed.

**DTSC 3000. Special Topics in Data Science. (3)** Special topics in interdisciplinary data science. Topic varies by semester and instructor. *May be repeated for credit with change of topic.*

**DTSC 3201. An Introduction to Large Language Models (LLMs). (3)** Prerequisite(s): DTSC 2301, DTSC 2302. Introduction to the fundamentals of Large Language Models (LLMs), including their design, capabilities, limitations, and ethical concerns. Students will use Python and popular libraries like Hugging Face Transformers to explore how LLMs generate and process text. The course blends technical, hands-on learning with broader discussions about the social impact of AI.

**DTSC 3400. Data Science Practicum. (1 to 3)** An experiential learning course which involves direct involvement on one or more data science projects with a community or industry partner. *May be repeated for credit up to 3 times with permission of instructor.*

**DTSC 3601. Predictive Analytics and Their Implications A. (3)** Prerequisite(s): DTSC 2301, DTSC 2302, and ITSC 2214. Corequisite(s): DTSC 3602. In this studio, students learn the ethical use of machine learning to develop models and predictive features from unstructured data to explore a data science approach to socially relevant challenges. Validity of predictions are be analyzed using appropriate statistical hypothesis tests. The ethical implications of collecting and using data from external sources are also discussed.

**DTSC 3602. Predictive Analytics and Their Implications B. (3)** Prerequisite(s): DTSC 2301, DTSC 2302, and ITSC 2214. Corequisite(s): DTSC 3601. In this studio, students learn the ethical use of machine learning to develop models and predictive features from unstructured data to explore a data science approach to socially relevant challenges. Validity of predictions are analyzed using appropriate statistical hypothesis tests. The ethical implications of collecting and using data from external sources are also discussed.

**DTSC 3800. Independent Study. (1 to 3)** Supervised investigation of a problem or subject in the field of Data Science. To be arranged with the instructor, generally during the preceding semester. *May be repeated for credit with change of topic.*

**DTSC 3900. Undergraduate Research. (1 to 3)** Prerequisite(s): Permission of department. Students make progress on a new or existing original research project, studying a topic in data science, under the guidance of a faculty member. *May be repeated for credit up to three times.*

**DTSC 4000. Special Topics in Data Science. (3)** Special topics in interdisciplinary data science. Topic varies by semester and instructor. *May be repeated for credit with change of topic.*

**DTSC 4301. Data Science for Social Good A. (3)** Prerequisite(s): DTSC 3602, STAT 2223, and Senior standing. Corequisite(s): DTSC 4302. This capstone class combines technical, analytic, interpretive, and social dimensions to design and execute a full data science project. Students focus on real-world applications and situations. Projects integrate all the core skills and concepts learned through the program with an agile project implementation. Students are evaluated on their ability to collaboratively develop and communicate their work in both written and oral form, problem solving, influencing, and management. Includes evaluation of inherent bias, fairness, and accountability in data modeling.

**DTSC 4302. Data Science for Social Good B. (3)** Prerequisite(s): DTSC 3602, ITCS 3162, STAT 2223, and Senior standing. Corequisite(s): DTSC 4301. This capstone class combines technical, analytic, interpretive, and social dimensions to design and execute a full data science project. Students focus on real-world applications and situations. Projects integrate all the core skills and concepts learned through the program with an agile project implementation. Students are evaluated on their ability to collaboratively develop and communicate their work in both written and oral form, problem-solving, influencing, and management. Includes evaluation of inherent bias, fairness, and accountability in data modeling.

# Early Childhood Education Intervention (ECEI)

**ECEI 2111. Theoretical Foundations of Early Childhood Care and Education. (3)** Prerequisite(s): Must be enrolled in one of the following Fields of Study (Pre-Major, Major, Minor, or Concentration): Early Childhood Education and Intervention. Students must complete this course with C or better to proceed in their program. Corequisite(s): ECEI 2113, ECEI 2114. A rigorous overview of the history of early childhood education (ECE), early intervention/early childhood special education (EI/ECSE), and the broader field of child and family studies. Coursework will focus on history, philosophy, theories of child development across domains, professional roles and responsibilities, best practices, contemporary issues, pertinent legislation, and the range of settings and environments in which professionals and families collaborate to achieve positive outcomes for young children and their families.

**ECEI 2113. Introduction to Early Childhood Development and Developmentally Appropriate Practice (DAP). (3)** Prerequisite(s): Must be enrolled in one of the following Fields of Study (Pre-Major, Major, Minor, or Concentration): Early Childhood Education and Intervention. Students must complete this course with C or better to proceed in their program. Corequisite(s): ECEI 2111, ECEI 2114. Focuses on the study of development beginning prenatal through 8 years of age and developmentally appropriate practices for young children. The course also discusses potential influences of biological, genetic, environmental, and cultural factors on development.

**ECEI 2114. Understanding Families: Theoretical Perspectives, Foundations, and Practice. (3)** Prerequisite(s): Must be enrolled in one of the following Fields of Study (Pre-Major, Major, Minor, or Concentration): Early Childhood Education and Intervention, The Collaborative Educators in Inclusive Schools or Inclusion, Disability, and Exceptionalities in American Society Minors. Students must complete this course with C or better to proceed in their program. Corequisite(s): ECEI 2111; ECEI 2113. This introductory course examines theoretical perspectives about families, including parenting children from prenatal through adulthood development. An emphasis is placed on family dynamic structures and strategies for developing collaborative partnerships with families.

**ECEI 2412. Clinical I: Applied Early Learning in Childhood Settings. (3)** Prerequisite(s): Admittance to Teacher Education in ECEI, and GPA of at least 2.5 overall and 2.75 in the major. Must be enrolled in one of the following Fields of Study (Minor, or Concentration): Early Childhood Education and Intervention; ECEI 2111, ECEI 2113, ECEI 2114. Effective methods of observation, documentation, and assessment as related to developmental theory for young children age Birth-5. This course will also include virtual seminars where candidates will meet with the course instructor to learn about conducting observations of young children and debrief their observations from the field.

**ECEI 3112. Supporting Young Learners - Birth through Kindergarten: Introductory Methods. (3)** Prerequisite(s): ECEI major with GPA of at least 2.5 overall and 2.75 in the major; ECEI 2111, ECEI 2113, ECEI 2114. Focuses on children's developmental and individual needs, curriculum decisions, and the design of early learning environments. This course explores topics such as curricula models and frameworks, professional roles, application of developmental domains and academic disciplines, curricula implementation, and provides an introduction to assessment and progress monitoring. A corresponding clinical will be required.

**ECEI 3114. Advanced Infant-Toddler Methods 0-3. (3)** Prerequisite(s): Admittance to Teacher Education in ECEI, and GPA of at least 2.5 overall and 2.75 in the major; ECEI 3112, ECEI 3210, ECEI 3412, ECEI 4111. Provides opportunities to examine early childhood learning environments and integrated approaches to supporting young children aged 0-2 years of all ability levels with an emphasis on practice in applied settings. Specifically, in this course students learn naturalistic and instructional strategies that support children's active learning across developmental domains (including play) in a range of routines and activities. This course also emphasizes the importance of transitions and relationships to support children's learning.

**ECEI 3210. Enhancing the Social-Emotional Development of Young Children in Inclusive Settings. (3)** Prerequisite(s): Students must complete this course with C or better to proceed in their program.; ECEI 2111, ECEI 2113, and ECEI 2114. Corequisite(s): ECEI 2412, ECEI 3112 (majors only), ECEI 4111. This course will review and analyze the social-emotional development and behaviors of young children, birth through kindergarten, in all early childhood settings. This course will explore young children's social-emotional development; the effects of potential risk factors and disability (e.g., neurodiversity, communication delays) on social-emotional development related to ecological influences; evidence-based practices to support social and emotional growth and learning, including tiered behavioral supports, behavior support plans, and implementation efforts. Students learn how to conduct functional behavior assessments, prevent and respond to challenging behaviors, and build social competence in young children in a variety of early childhood settings. A corresponding clinical (ECEI 2412) will be required.

**ECEI 3412. Clinical II: Applied Learning in Early Childhood Settings. (3)** Prerequisite(s): Admittance to Teacher Education in ECEI, and GPA of at least 2.5 overall and 2.75 in the major; ECEI 2412, ECEI 3112, ECEI 3210, ECEI 4111. Corequisite(s): ECEI 3114, ECEI 4112, ECEI 4114. Practical application of advanced methods of designing, implementing, and assessing learning experiences in support of children's development (birth through 5 years). A community-based clinical assignment is required where each candidate will engage in various community settings. Additionally, a seminar experience will be required where candidates will engage in peer collaboration and learning across experiences and coursework. The courses associated with this clinical are ECEI 3114, ECEI 3414, and ECEI 4112.

**ECEI 4111. Foundations of Early Intervention and Early Childhood Special Education. (3)** Prerequisite(s): Must be enrolled in one of the following Fields of Study (Major, Minor, or Concentration): Early Childhood Inclusive Education and Intervention. Students must complete this course with C or better to proceed in their program; ECEI 2111, ECEI 2113, ECEI 2114. Corequisite(s): ECEI 2412, ECEI 3112 (majors only), ECEI 3210. An introduction to early intervention (EI; birth to age 3) and early childhood special education (ECSE; ages 3-5 years), including a historical context for the development of EI/ECSE, an examination of similarities and distinctions between these separate entities, and family rights/advocacy for services and supports. Candidates in this course will learn pertinent legislation for EI/ECSE and the process of identification, eligibility, and transition for children and families to participate in these programs. Additionally, candidates will learn models of EI/ECSE service delivery (e.g., teaming models, various classroom settings) and the professional roles/responsibilities associated with EI/ECSE programs and services. A corresponding clinical (ECEI 2412) will be required.

**ECEI 4112. Assessment of Young Children with Disabilities: B-K. (3)** Prerequisite(s): Admission to Teacher Education; GPA of at least 2.5 overall and 2.75 in the major; and ECEI 2412, ECEI 3112, ECEI 3210, ECEI 4111. Corequisite(s): ECEI 3114, ECEI 3412, ECEI 4114. Prepares students to develop competence in evaluation, design, implementation, and interpretation of individually responsive, interdisciplinary assessment approaches for young children at-risk of developing and with disabilities. Course will focus on assessment within the context of the young child's natural environment and in partnership with families leading to appropriate intervention plans for children with disabilities. A field-based clinical assignment (ECEI 3412) is required.

**ECEI 4114. Integrated Learning Experiences: Advanced Methods Pre-K through Kindergarten. (3)** Prerequisite(s): Admittance to Teacher Education in ECEI, and GPA of at least 2.5 overall and 2.75 in the major; ECEI 2412, ECEI 3112, ECEI 3210, ECEI 4111. Corequisite(s): ECEI 3114, ECEI 3412, ECEI 4112. Provides opportunities to develop and apply knowledge and skills to design and implement integrated learning experiences with young children, their caregivers, and other professionals across academic disciplines and developmental domains in preschool and kindergarten contexts. Emphasis is placed on developmentally appropriate curricular approaches that integrate content areas such as literacy, mathematics, science, and the arts. Students will explore and apply evidence-based instructional strategies that support whole child development and inclusive practices within early childhood curriculum frameworks. A corresponding clinical will be required.

**ECEI 4118. Interdisciplinary and Family-Professional Partnerships. (3)** Prerequisite(s): Admittance to Teacher Education; GPA of at least 2.5 overall and 2.75 in the major; and ECEI 3114, ECEI 3412, ECEI 4112, ECEI 4114. Corequisite(s): ECEI 4205, ECEI 4210, ECEI 4412. Examines and applies in-depth research, theory, and practices to create and implement evidence-based supports that build upon family and child strengths in a variety of home and community settings. This course must be taken in conjunction with a clinical course that provides opportunities for the application of evidence-based and research-supported practices.

**ECEI 4200. Child Life: Supporting Children and Families. (3)** Prerequisite(s): Admittance to Teacher Education in ECEI, and GPA of at least 2.5 overall and 2.75 in the major. An overview of the child life field. Introduces and examines concepts, principles and applications for the child life profession. Students are introduced to the role of the child life specialist in supporting ill children and their families to promote optimal coping and development. Includes site visits.

**ECEI 4205. Integrated Instructional Applications. (3)** Prerequisite(s): Admittance to Teacher Education in ECEI, and GPA of at least 2.5 overall and 2.75 in the major; ECEI 3114, ECEI 3412, ECEI 4112, ECEI 4114. Corequisite(s): ECEI 4118, ECEI 4210, ECEI 4412. Integration of planning, implementing, and assessing instructional and environmental strategies for young children and their families across community settings. Candidates develop and apply knowledge of children's needs by planning and implementing lessons that align to state standards in developmental domains and academic content designed to meet the individual needs of all young children and their families. Additionally, candidates analyze child outcome data and make instructional decisions for subsequent planning. Candidates are concurrently enrolled in a practicum course for the purpose of applying knowledge.

**ECEI 4210. Developmental Interventions for Young Children with Disabilities: Birth through Kindergarten. (3)** Prerequisite(s): ECEI 3114, ECEI 3412, ECEI 4112, ECEI 4114. Corequisite(s): ECEI 4205, ECEI 4118, ECEI 4412. An in-depth, applied experience for students to identify, plan, and implement evidence-based and research-supported practices with fidelity with young children (birth through Kindergarten). Students will design intervention plans to support young children and their families according to their Individualized Family Service Plans (IFSPs) and Individualized Education Programs (IEPs) in a variety of early childhood settings. This course must be taken in conjunction with a practicum course (ECEI 4412) that provides opportunities for the application of evidence-based and research-supported practices.

**ECEI 4412. Clinical III: Applied Learning in Early Childhood Settings. (3)** Prerequisite(s): Admittance to Teacher Education in ECEI, and GPA of at least 2.5 overall and 2.75 in the major; ECEI 3114, ECEI 3412, ECEI 4112, ECEI 4114. Corequisite(s): ECEI 4205, ECEI 4210, ECEI 4118. Practical application of advanced methods of designing, implementing, and assessing learning experiences to support children's development (age birth through 5 years) in preparation for student teaching. Each candidate will engage in various community settings. Additionally, a seminar experience will be required where candidates will engage in peer collaboration and learning across experiences and coursework. The courses associated with this course are ECEI 4118, ECEI 4205, and ECEI 4210.

**ECEI 4410. Student Teaching/Seminar: B-K Early Childhood Education and Intervention. (15)** Prerequisite(s): Approval of an

Application for Student Teaching. Completion of all degree and professional education requirements including completion of the first semester of the Yearlong Internship.. Student teaching is a planned sequence of experiences in the student's area of specialization conducted in an approved school setting under the supervision and coordination of a university supervisor and a clinical educator. During student teaching, the student must demonstrate the competencies identified for their specific teaching field in an appropriate grade level setting. The student is assigned 16 weeks in a school setting. Includes seminars. Participating students pay a course registration fee for edTPA portfolio assessment. *Graded on a Pass/No Credit basis.*

# Electrical and Computer Engineering (ECGR)

**ECGR 2103. Computer Utilization in C++. (3)** Prerequisite(s): Computer Engineering or Electrical Engineering major or minor. Introduction to the use of computers and computing methods to solve engineering problems. Structures and object-oriented programming design using C++.

**ECGR 2104. Computer Engineering Programming II. (3)** Prerequisite(s): ECGR 2103, ITSC 1212, or equivalent with a grade of C or above; and Engineering major or minor. Advanced topics in C++ such as: pointers, recursion, inheritance, polymorphism, and templates. Introduction to linked data structures and analysis of algorithms.

**ECGR 2105. Computer Programming. (3)** Prerequisite(s): ENGR 1302 or ECGR 2103 or ITSC 1212 with a grade of C or above, or permission of department; Computer Engineering or Electrical Engineering major or minor. Introduction to computer programming using C++. Programming fundamentals are covered, such as variable declaration, arithmetic and logical operators, branches and loops, functions, classes and structures, pointers, dynamic memory management, inheritance, and recursion. Special emphasis is applied to the consideration of low-level and hardware implications of program structure.

**ECGR 2111. Network Theory I. (3)** Prerequisite(s): Computer Engineering or Electrical Engineering major or minor. Pre- or Corequisite(s): MATH 2171 or permission of department. Ohm's Law and the passive sign convention in circuit analysis. Introduction to Kirchoff's laws. Circuit analysis techniques and network theorems. Energy-storage elements in circuits. Transient and natural response of first-order circuits.

**ECGR 2112. Network Theory II. (3)** Prerequisite(s): ECGR 2111 or ECGR 2161, MATH 2171, and PHYS 2102, all with grades of C or above; and Engineering major or minor. Pre- or Corequisite(s): ECGR 2254 with grade of C or above. Continuation of ECGR 2111. Transient and natural response of second-order circuits. Complex numbers. Sinusoidal steady state analysis and phasors. Power and energy in single-phase circuits. Frequency-domain analysis and Bode Plots. Introduction to Laplace transforms and transfer functions.

**ECGR 2112L. Networks Laboratory. (1)** Pre- or Corequisite(s): ECGR 2112 or permission of department.

**ECGR 2155. Instrumentation and Networks Laboratory. (1)** Prerequisite(s): MATH 1242 with grade of C or above; and Computer Engineering or Electrical Engineering major or minor. Pre- or Corequisite(s): ECGR 2111 or permission of department. Network measurements and applications, introduction to laboratory equipment and techniques.

**ECGR 2156. Logic and Networks Laboratory. (1)** Prerequisite(s): ECGR 2155 and Engineering major or minor. Pre- or Corequisite(s): ECGR 2112 and ECGR 2181, or permission of department. Experimental logic design, network measurements, applications, and instrumentations.

**ECGR 2161. Basic Electrical Engineering I. (3)** Prerequisite(s): PHYS 2102 with grade of C or above; and Engineering major or minor. Fundamental concepts and methods of analysis of D.C. and A.C. circuits, elementary operation of electronic devices. Not open to Electrical and Computer Engineering majors.

**ECGR 2181. Logic Systems Design. (3)** Prerequisite(s): ENGR 1302 with grade of C or above, or ECGR 2103 with grade of C or above, or ITSC 1212 with grade of C or above, or permission of department; and Computer Engineering or Electrical Engineering major or minor. Introduction to Boolean algebra; mixed logic; design of combinational circuits; introduction to sequential systems; MSI building blocks; digital systems design and test; design of multi-input based controller systems; programmable logic devices.

**ECGR 2181L. Logic System Design Laboratory. (1)** Pre- or Corequisite(s): ECGR 2181 or permission of department. Introduction to laboratory instrumentation, experimental circuit design, digital logic circuit fabrication, and Field Programmable Gate Array devices.

**ECGR 2252. ECE Sophomore Design. (2)** Prerequisite(s): ECGR 2111 and ECGR 2155 or equivalents; and Engineering major or minor. Pre- or Corequisite(s): ECGR 2112 and ECGR 2181 or equivalents. Introduction to the electrical engineering design process including teamwork, design specifications, conceptual design, detailed design, design integration, cost estimation and market considerations. Product design projects are completed and laboratory prototypes are developed and tested by design teams. Oral presentations and written technical reports on the design projects are required.

**ECGR 2254. Analytical Foundations of Electrical and Computer Engineering. (3)** Prerequisite(s): MATH 2164, MATH 2171 with grade of C or above; and Engineering major or minor. Use of MATLAB for numeric simulation analysis, complex numbers, real and complex functions, signal representation, functional approximation by curve fitting, introduction to functions of a discrete variable, linear differential equations, Laplace transforms used for solving linear differential equations, Fourier series and Fourier transforms and their use in solving electrical and computer engineering problems.

**ECGR 3090. Special Topics. (1 to 4)** Prerequisite(s): Permission of department and Engineering major or minor. The course builds upon and synthesizes knowledge from the engineering science, mathematics, and physical sciences stem of the core curriculum. The specific topics teach engineering analysis, synthesis, and design, while simultaneously

affording an opportunity for the students to investigate an area of specialization. *May be repeated for credit.*

**ECGR 3101. Embedded Systems. (3)** Prerequisite(s): Either ECGR 2104 or ECGR 2105, and ECGR 2181, both with grades of C or above, or permission of department; and Engineering major or minor. Introduction to designing microcontroller-based embedded computer systems using assembly and C programs. Examination of real-time operating systems and their impact on performance. Computer engineering applications are emphasized.

**ECGR 3101L. Embedded Systems Laboratory. (1)** Pre- or Corequisite(s): ECGR 3101 or permission of department. Experiments in embedded systems applications. Lab activities use the C language for the programming of microcontrollers. Exercises will explore efficient programming strategies and interfacing with common microcontroller peripherals.

**ECGR 3105. Introduction to Machine Learning. (3)** Prerequisite(s): MATH 2164, and either ECGR 2103 or ECGR 2105, both with a grade of C or better, or permission of department. Machine learning is a sub-field of Artificial Intelligence that gives computers the ability to learn and/or act without being explicitly programmed. This course examines the necessary theory, principles and algorithms for machine learning. Topics include: supervised, unsupervised learning approaches (including deep learning), optimization procedures, and statistical inference. Students digest and practice their knowledge and skills by class discussion, homework, and exams, as well as obtain in-depth experience with a particular topic through a final project. To prepare students to be successful in this course, light reviews on linear algebra and matrix analysis and programming tutorials are provided as additional course reading materials.

**ECGR 3111. Signals and Systems. (3)** Prerequisite(s): ECGR 2112 and ECGR 2254 with grades of C or above; and Engineering major or minor. Analysis of continuous-time and discrete-time signals and systems. Input-output relationships of linear time-invariant systems. Transient and steady state analysis. Frequency domain descriptions, Fourier analysis and the Discrete Fourier Transform. Introduction to Z Transform, its properties, and its relation to LTI systems. Use of Laplace transform for LTI Systems.

**ECGR 3112. System Analysis II. (3)** Prerequisite(s): ECGR 3111 with grade of C or above; and Engineering major or minor. Introduction to Feedback systems, Laplace Transform theorems and Inverse Laplace transform using partial fraction, Systems analysis using Laplace transform. Transfer functions, Block diagrams and signal flow graphs. BIBO Stability, Routh-Hurwitz Criterion, Root locus method, Time domain response, Effects of adding poles and zeros, PID controllers, and introduction to State-space.

**ECGR 3120. Electromagnetic Fields and Waves. (3)** Prerequisite(s): ECGR 2112 and MATH 2241 with grades of C or above, or permission of the department. Provides an introduction to electromagnetic fields and waves. Includes static electromagnetic fields, potentials, and their fundamental postulates and boundary conditions. Introduces Maxwell's equations, with applications to time-varying cases to include the complete classical electromagnetic field equations. Study of the propagation and dynamic properties of time harmonic electromagnetic waves in several structures such as a homogeneous medium, at interfaces between two media, as well as within waveguides. A basic introduction to transmission lines.

**ECGR 3121. Introduction to Electromagnetic Fields. (3)** Prerequisite(s): ECGR 2112 and MATH 2241 with grades of C or above; and Engineering major or minor. A study of electric and magnetic fields using the vector formulation. Vector analysis. Electrostatics: potential functions, dielectrics, capacitance, energy, and forces associated with electric fields, solution of Laplance's and Poisson's equations. Magnetostatics: vector potential functions, Lorentz forces, hysteresis, magnetic polarization and induction, and energy. Gauss's, Ampere's, Faraday's laws, etc., leading to the Maxwell's equations.

**ECGR 3122. Electromagnetic Waves. (3)** Prerequisite(s): ECGR 3121 with grade of C or above; and Engineering major or minor. A study of Maxwell's equations, transmission line theory, plane waves in media, propagation of electromagnetic waves in various media. The phenomena of reflection and refraction at interfaces of two dissimilar materials. Guided electromagnetic waves in coaxial cables and waveguides.

**ECGR 3123. Data Communications and Networking. (3)** Prerequisite(s): ECGR 2111, ECGR 2181, and Engineering major or minor. An introduction to data communications, including transmission media, signal encoding, link control, and multiplexing. Concepts of networking including protocols, LAN, WAN, and wireless networks.

**ECGR 3130. Fundamentals of Electronics and Semiconductors. (3)** Prerequisite(s): ECGR 2112 with grade of C or above or permission of department. Study of the fundamental concepts and applications of semiconductor devices. Diode characteristics and applications, including clipping and rectifier circuits. MOS, JFET, and bipolar transistor fundamentals, including D.C. biasing and small-signal analysis of single-stage amplifiers. Operational amplifier fundamentals.

**ECGR 3130L. Electronics Laboratory. (1)** Pre- or Corequisite(s): ECGR 3130 or permission of department. Measurements and applications of electronics circuits.

**ECGR 3131. Fundamentals of Electronics and Semiconductors. (3)** Prerequisite(s): ECGR 2112 with grade of C or above; and Engineering major or minor. Study of the fundamental concepts and applications of semiconductor devices. Diode characteristics and applications, including clipping and rectifier circuits. MOS, JFET, and bipolar transistor fundamentals, including D.C. biasing and small-signal analysis of single-stage amplifiers. Operational amplifier fundamentals.

**ECGR 3132. Electronics. (3)** Prerequisite(s): ECGR 3131 with grade of C or above; and Engineering major or minor. Low and high-frequency analysis of transistor amplifiers. Multistage and feedback amplifier design. Stability and oscillation. Operational amplifier design and applications.

**ECGR 3133. Solid State Microelectronics I. (3)** Prerequisite(s): ECGR 3121 and PHYS 3141, or permission of department; and Engineering major or minor. Simple crystal structures, energy bands, and charge carriers in semiconductors, distribution functions for photons and electrons, optical and electrical properties, carrier diffusion, generation, and recombination.

**ECGR 3142. Electrical Energy Conversion. (3)** Prerequisite(s): Either ECGR 3120 or ECGR 3121 with grade of C or above, or permission of department; and Engineering major or minor. Principles of operation and basic design features of electromechanical energy converters; three phase power. The role of the magnetic field in transformers and electrical machines; Generation of induced voltages; Electromechanical torque development; Speed control; Circuit models and machine performance; Photovoltaic power conversion.

**ECGR 3142L. Electrical Energy Conversion Laboratory. (1)** Pre- or Corequisite(s): ECGR 3142 or permission of department. Measurements and application of electromechanical energy converters and three phase systems.

**ECGR 3155. Systems and Electronics Laboratory. (1)** Prerequisite(s): ECGR 2112, ECGR 2156, and Engineering major or minor. Pre- or Corequisite(s): ECGR 3111 and ECGR 3131, or permission of department. Systems and signals measurements and applications; electronic circuits.

**ECGR 3156. Electromagnetic and Electronic Devices Laboratory. (1)** Prerequisite(s): ECGR 3155 and Engineering major or minor. Pre- or Corequisite(s): ECGR 3132 or permission of department. Measurements and applications of electromagnetic and solid state devices.

**ECGR 3157. ECE Junior Design. (3)** Prerequisite(s): ECGR 3111 and either ECGR 3130 or ECGR 3131, all with grades of C or above, or permission of department; Engineering major or minor. Pre- or Co-requisite Course(s): ECGR 3111 and ECGR 3131 with grades of C or above. Application of conceptual design; circuit design; parameter sensitivity analysis; cost-performance tradeoff analysis and interconnection compatibility design. A design project completed in a laboratory setting and a written technical report and oral presentation on the project are required.

**ECGR 3159. Professional Practice. (1)** Prerequisite(s): Senior standing and Engineering major or minor. Ethics; safety and liability in the manufacturing workplace; product design; product development; cost estimating for nonrecurring engineering work; production planning; Total Quality Management; and effective technical presentation.

**ECGR 3161. Robotics Technologies. (3)** Pre- or Corequisite(s): ECGR 2105 and ECGR 2112 with a grade of C or above, or permission of department. Introduction to the basic technologies used in a robotic system. Students will examine several sensors and actuators that are used in robotics and learn how to integrate them into a robotics system. Students will further investigate algorithmic control of hardware.

**ECGR 3180. Data Structures and Algorithms in C++. (3)** Prerequisite(s): ECGR 2104 or ECGR 2105 with grade of C or above. An introduction to data structures and algorithms. Emphasis is placed on practical implementations in an object-oriented framework using the C++ programming language. Additionally, students are introduced how to select data structures and algorithms that are appropriate for engineering-centric computational problems that they encounter.

**ECGR 3183. Computer Organization. (3)** Prerequisite(s): ECGR 2181 and either ECGR 2104 or ECGR 2105, all with grades of C or above, or permission of department. Introduction to key concepts in computer organization, design, and engineering. Topics include: CPU performance analysis, instruction set design, systems-level view of computer arithmetic, design of the datapath and control for a simple processor using VHDL, pipelining, hierarchial memory, I/O systems.

**ECGR 3695. Electrical and Computer Engineering Cooperative Education Seminar. (1)** Prerequisite(s): ENGR 3500 and permission of the ECE department's co-op advisor; and Engineering major or minor. Required for co-op students during semesters immediately following each work assignment for presentation of engineering reports on work done the prior semester. *Graded on a Pass/No Credit basis. May be repeated for credit.*

**ECGR 3890. Individualized Study. (1 to 3)** Prerequisite(s): Permission of department and Engineering major or minor. Supervised individual study within an area of a student's particular interest which is beyond the scope of existing courses. *May be repeated for credit.*

**ECGR 3990. Undergraduate Research. (1 to 4)** Prerequisite(s): Permission of department and Engineering major or minor. Independent study of theoretical and/or experimental problems in the specialized area of engineering analysis and design. Students may pursue a particular area or problem to a depth much greater than can be undertaken within the scope of existing courses. *May be repeated for credit.*

**ECGR 4090. Special Topics. (1 to 4)** Prerequisite(s): Permission of department and Engineering major or minor. Directed study of current topics of special interest. *May be repeated for credit.*

**ECGR 4100. Research Tools and Techniques in Computer Engineering. (3)** Cross-listed Course(s): ECGR 5100. Prerequisite(s): Senior standing; and Engineering major or minor or permission of instructor. Introduction to the fundamentals of computer engineering research and the practical tools required to collect, analyze, and report research results. Key engineering mathematics topics are covered, such as the propositional and predicate calculus, analysis of algorithms, and graph theory. Students are exposed to compiling software packages and device drivers, as well as the conventions for developing similar software.

**ECGR 4101. Advanced Embedded Systems. (3)** Cross-Listed Course(s): ECGR 5101. Prerequisite(s): ECGR 3101 and ECGR 3183 with grade of C or above, and Engineering major or minor. An advanced course in embedded system design utilizing advanced microprocessors. Architecture, software, and interface techniques. This course is project-oriented, involving the use of a logic analyzer and hardware design tools.

**ECGR 4103. Machine Vision, AI and Image Processing. (3)** Prerequisite(s): ECGR 3111 or permission of department; and Engineering major or minor. An introduction to the theory and application of perceptual machine learning, computer vision and digital image processing including applications in society such as computer vision, robotics, medicine, science, and public health, safety and welfare.

**ECGR 4104. Computational Methods in Power Systems. (3)** Prerequisite(s): ECGR 4142 or permission of department; and Engineering major or minor. Numerical techniques for analysis, operation, and planning of power systems. Sparse matrix techniques applied to power flow algorithms. Economic operation of power systems. Optimum power flow.

**ECGR 4105. Introduction to Machine Learning. (3)** Cross-listed Course(s): ECGR 5105. Prerequisite(s): ECGR 3101 or ECGR 3111. Machine learning is a sub-field of Artificial Intelligence that gives computers the ability to learn and/or act without being explicitly programmed. This course examines the necessary theory, principles and algorithms for machine learning. Topics include: supervised, unsupervised learning approaches (including deep learning), optimization procedures, and statistical inference. Students digest and practice their knowledge and skills by class discussion, homework, and exams, as well as obtain in-depth experience with a particular topic through a final project. To prepare students to be successful in this course, light reviews on linear algebra and matrix analysis and programming tutorials are provided as additional course reading materials.

**ECGR 4106. Foundations of Deep Learning. (3)** Cross-listed Course(s): ECGR 5106. Prerequisite(s): ECGR 3105 or ECGR 4105, or permission of department. A comprehensive introduction to deep learning fundamentals, neural network architectures, and modern AI techniques, equipping students with the theoretical and practical knowledge necessary to design and implement cutting-edge deep learning models.

**ECGR 4111. Control Systems Theory I. (3)** Cross-listed Course(s): ECGR 5411. Prerequisite(s): ECGR 3112 with grade of C or above; and Engineering major or minor. The fundamentals of modern multi-input-multi-output control systems and preliminary analysis of nonlinear systems via the method of linearization. Time domain analysis of control systems. Design of state-feedback controller via the method of pole-placements. Determining controllability and observability of linear systems. The design and compensation of control systems, Phase lead, lag controller synthesis, Nyquist Stability criterion and frequency domain responses. Credit will not be given for ECGR 4111 where credit has been given for ECGR 5411.

**ECGR 4112. Principles of Digital Control Systems. (3)** Prerequisite(s): ECGR 3111 and Engineering major or minor. Introduction to digital control system principles. Topics include: z-transform, Laplace transform, and starred transform analysis, pulse transfer functions, digital lag, digital lead, and digital PID controller design, closed-loop stability of digital control systems, and introduction to state-variable methods.

**ECGR 4115. Convex Optimization and AI Applications. (3)** Cross-listed Course(s): ECGR 5115. Prerequisite(s): ECGR 2103 or ECGR 2105 or ITSC 1212 and MATH 2164, or equivalent courses; Junior standing or above, or permission of instructor. Focuses on the theory and the algorithmic aspects of convex optimization. Topics include: convex sets, convex functions, and convex optimization problems; duality theory and optimality conditions; algorithms for solving convex problems; use of numerical tools to solve problems; and, if time permits, non-convex optimization problems. Also discussed are applications of the materials to engineering topics such as signal processing, control, robotics, machine learning, statistics, and related engineering problems.

**ECGR 4116. Artificial Intelligence for Biomedical Applications. (3)** Cross-listed Course(s): ECGR 5116. Prerequisite(s): ECGR 3105 or ECGR 4105, or permission of department. Introduction to fundamental concepts of Artificial Intelligence (AI) and its application to biomedical domain. Exposure to pattern recognition, medical image processing, algorithms and machine learning frameworks using Python.

**ECGR 4117. AI for Robotics and Automation. (3)** Prerequisite(s): ECGR 3101 or ECGR 3111. Cross-listed Course(s): ECGR 5117. The objective of this course is to provide students with a working knowledge of foundational theory, algorithms and design used for creating autonomous robotic systems. The course also provides students an understanding of how foundational algorithms in this area can be translated from a formal algorithmic implementation to a Deep Learning (DL) or Artificial Intelligence (AI) implementation. Credit will not be given for ECGR 4117 where credit has been given for ECGR 5117.

**ECGR 4121. Antennas. (3)** Prerequisite(s): ECGR 3120 or ECGR 3122 with grade of C or above or permission of department; and Engineering major or minor. Radiation into free space, the point source, thin linear antenna, arrays of linear elements, aperture antennas, impedance, methods of feeding, matching and termination. Antenna systems.

**ECGR 4122. Acoustics. (3)** Prerequisite(s): ECGR 3111 with grade of C or above; and Engineering major or minor. Vibrations and simple vibrating systems; radiating systems; plane waves of sound, dynamic analogies, microphones and other acoustic transducers; acoustic measurements.

**ECGR 4123. Analog and Digital Communication. (3)** Prerequisite(s): ECGR 3111 with grade of C or above; and Engineering major or minor. Analysis and transmission of signals, including analog communication systems (amplitude and frequency modulation); digital communications systems (pulse code modulation and data transmission systems).

**ECGR 4124. Digital Signal Processing. (3)** Prerequisite(s): ECGR 3111 with grade of C or above; and Engineering major or minor. Sampling and signal recovery in linear systems; analysis of sampled systems; discrete and fast Fourier transforms; z-transform; discrete convolution; design of digital FIR and IIR filters.

**ECGR 4125. Foundation of Optical Engineering. (3)** Prerequisite(s): Either ECGR 3120 or ECGR 3121, and PHYS 3141, with grade of C or above or permission of department; and Engineering major or minor. The engineering aspects and applications of modern optics, optical communications, optical materials, optical devices, basic optical fiber and integrated optics, optical signals, and optical modulation, multiplexing, and related networks, basic Fourier optics and its application in optical images and information. Credit will not be given for ECGR 5125 where credit has been given for ECGR 4125.

**ECGR 4127. Machine Learning for the Internet of Things. (3)** Cross-listed Course(s): ECGR 5127. Prerequisite(s): ECGR 3105 or ECGR 4105, or permission of department Introduces the concepts and skills necessary to design, train, and deploy machine learning models in resource-constrained devices. Topics include: analysis of the computational requirements of machine learning models; requirements of edge-deployed machine learning; techniques to reduce storage, computation, and latency; and software tools available. The concepts are applied through a series of projects.

**ECGR 4131. Linear Integrated Electronics. (3)** Prerequisite(s): ECGR 3130 or ECGR 3132 with grade of C or above; and Engineering major or minor. Design of linear integrated circuits utilizing bipolar and MOS devices. Application in linear amplifier design, control, and processing of analog signals.

**ECGR 4132. Analog Integrated Circuits Design. (3)** Prerequisite(s): ECGR 4131 with grade of C or above or permission of department; and Engineering major or minor. Topics include: analog MOS modeling, design of current mirrors, references, and operational amplifiers. Both hand analysis and SPICE simulation utilized.

**ECGR 4134. Solid State and Semiconductor Microelectronics II. (3)** Prerequisite(s): ECGR 3133 with grade of C or above, or permission of department; and Engineering major or minor. PN-junctions and Schottky junctions; bipolar and field effect transistors; optoelectronic and heterojunction devices; lithography and integrated circuits; microwave devices; light emitting devices and detectors; quantum devices using superlattices; quantum wells and quantum dots; material preparation and characterization; and measurement techniques.

**ECGR 4136. Semiconductor Optoelectronic Materials and Devices. (3)** Prerequisite(s): ECGR 3133 with grade of C or above, or permission of department; and Engineering major or minor. Direct and indirect bandgap materials; Compound and wide bandgap semiconductors; Electronic properties; Optical properties; Generation and recombination; Junction theory; Light emitting devices; Optical detectors.

**ECGR 4138. Electronic Thin Film Materials and Devices. (3)** Prerequisite(s): ECGR 3130 with grade of C or above or permission of department; and Engineering major or minor. Applications of thin films in microelectronics/optoelectronics manufacturing processes; vacuum technology, deposition techniques, and the characterization methods relevant to optoelectronic applications; thin film applications such as metallization, silicide formation, light emitting diodes (LED) and lasers, and doping of semiconductors.

**ECGR 4141. Power System Analysis I. (3)** Prerequisite(s): ECGR 3142 with grade of C or above; and Engineering major or minor. Representation of power system components for analysis studies. Transmission line parameters. Network equations. Load flow analysis and numerical methods.

**ECGR 4142. Power System Analysis II. (3)** Prerequisite(s): ECGR 4141 with grade of C or above; and Engineering major or minor. Economic operation of power systems. Short circuit studies. Symmetrical components. Transient stability analysis.

**ECGR 4143. Electrical Machinery. (3)** Prerequisite(s): ECGR 3142 with grade of C or above; and Engineering major or minor. Advanced theory of transformers and rotating. Machines; harmonic and saturation effects on machine performance. Unbalanced operation and transient conditions.

**ECGR 4144. Power Electronics I. (3)** Prerequisite(s): ECGR 3130 or ECGR 3131 with grade of C or above; and Engineering major or minor. High power solid state circuits. Topics include: power transfer, DC/DC converters, DC/AC inverters, AC/DC rectifiers, gate-drive circuits for linear and switching amplifiers, pulse-width modulators, power semiconductors, control and converter modeling, renewable energy system integration.

**ECGR 4146. Introduction to VHDL. (3)** Prerequisite(s): ECGR 2181 with grade of C or above and knowledge of a computer language, or permission of department; and Engineering major or minor. Introduction to VHSIC Hardware Description Language (VHDL) including VHDL-based high-level design of microelectronic systems, VHDL programming, and VHDL synthesis; emphasis on learning and using industry-standard VHDL tools.

**ECGR 4151. Solar Cell Fundamentals and Technology. (3)** Prerequisite(s): ECGR 3130 or ECGR 3131 with a grade of C or above.; and Engineering major or minor. Principles of operation and basic design features of silicon solar cells. Clean room protocols, processes, and fabrication techniques. Solar cell fabrication, testing, and process modifications to improve performance.

**ECGR 4161. Introduction to Robotics. (3)** Prerequisite(s): ECGR 2103 or ECGR 2105, or permission of department; Senior standing and Engineering major or minor. Credit may not be given for ECGR 4161 where credit has been given for MEGR 4127. Cross-listed Course(s): MEGR 4127, AEEE 5196, ECGR 5196. Introduction to the broad field of robotics, including industrial assembly robots, autonomous vehicles, and entertainment robots. Emphasis on the basic technologies and integration of mechanical, electrical, and software sub-systems into a complete device.

**ECGR 4171. Introduction to Energy Systems. (3)** Prerequisite(s): PHYS 2101 and Engineering major or minor. Overview of energy systems: energy types, generation, conversion, storage, transportation/transmission, and utilization. Principles, physical structure, processes, and utilization of fossil fuel, nuclear, and renewables for transportation, thermal, and electrical energy generation are discussed along with associated performance metrics. The course also provides an introduction to environmental impacts of energy production, life-cycle analysis, energy efficiency concepts and metrics, transmission systems, grid reliability, and the impact of smart grid technologies. All topics are presented in the context of industry standards as well as federal and state regulations.

**ECGR 4172. Energy Markets. (3)** Prerequisite(s): ECGR 4171 and Engineering major or minor. Energy and power systems in regulated and competitive environments and implications on business decisions for firms in these industries. Topics include: mechanism of energy markets; comparative market systems; determination of prices under different market structures; gas, oil, coal, and electricity market architecture; electricity market design; dispatch and new build decisions; smart grid and renewable energy in electricity markets; risk and risk management in energy including demand and price volatility and use of financial derivatives; and the impact of financial market trends and current and proposed policies on the energy industry.

**ECGR 4181. Computer Architecture. (3)** Prerequisite(s): ECGR 3183 or permission of department; and Engineering major or minor. Latest research and development in the area of computer architecture; multiprocessor architecture, multi-computers, interconnection networks, branch prediction, instruction-level, data-level and thread-level parallelism, and memory hierarchy; high-performance machines and special purpose processors.

**ECGR 4185. Advanced Electromagnetic Field Theory. (3)** Prerequisite(s): ECGR 3122 or permission of department; and Engineering major or minor. Maxwell's equations and propagation. Properties of guided and surface waves. Wave properties of light; physical and fiber optics.

**ECGR 4187. Data Communications and Networking II. (3)** Prerequisite(s): ECGR 3123 or permission of department; and Engineering major or minor. Principles of data communication networks; computer communications network architecture (layering) with emphasis on the network layer, transport layer, and application layer; local area networks; medium access control; routing; data transport; Internet applications.

**ECGR 4189. Cloud Native Application Architecture. (3)** Prerequisite(s): ECGR 3180. Cross-listed Course(s): ECGR 5189. Comprehensive introduction to architecting modern applications in the cloud that scale to millions of users. The course places equal emphasis on the basic principles of the different components and practices of cloud native architectures, and hands-on experience with industry standard tools.

**ECGR 4190. Power Generation: Operation and Control. (3)** Prerequisite(s): ECGR 4141 or permission of department; and Engineering major or minor. Characteristics of power generation units, steam, nuclear reactor and hydroelectric. Economic and thermal system dispatch. Transmission losses, load flow problems. Hydro scheduling, hydro-plant models. Energy production cost models. Interchange evaluation.

**ECGR 4191. Dynamic and Transient Analysis of Power Systems. (3)** Prerequisite(s): ECGR 4142 or permission of department and Engineering major or minor. Large-scale systems state descriptions and hierarchical control. State space models, dynamic stability and testing. Stability of simple and multi-machine systems. Transient phenomena in electrical power systems. Transient stability problem.

**ECGR 4231. Sensors and Actuators. (3)** Prerequisite(s): ECGR 3121, ECGR 3132, or permission of department; and Engineering major or minor. Fundamentals of sensors and actuators, and their applications in smart machines, industry, metrology, and the environment. Materials for sensors, actuators, electronic and optical sensors, electroptics, magneto-optics, and fiber optics sensors, microsensors and actuators, sensors and actuators, signal processing and interfaces.

**ECGR 4241. Electrical Engineering Senior Design I. (2)** Prerequisite(s): ECGR 3111, either ECGR 3130 or ECGR 3131, either ECGR 3120 or ECGR 3121, and ECGR 3157, all with grades of C or above, or permission of department; Senior standing; Electrical Engineering major. A project-oriented course stressing the planning and design of experiments to support the student's project. Formation of the design problem and specification. Credit will not be given for ECGR 4241 where credit has been given for ECGR 4251.

**ECGR 4242. Electrical Engineering Senior Design II. (2)** Prerequisite(s): ECGR 4241 and Engineering major or minor. A continuation of ECGR 4241 consisting of project development and analysis, culminating in written and oral presentations. Credit will not be given for ECGR 4242 where credit has been given for ECGR 4252.

**ECGR 4251. Computer Engineering Senior Design I. (2)** Prerequisite(s): ECGR 3111, either ECGR 3130 or ECGR 3131, ECGR 3101, and ECGR 3157, all with grades of C or above, or permission of department; Senior standing; Computer Engineering major. A project-oriented course stressing the planning and design of experiments to support the student's project. Formation of the design problem and specification. Credit will not be given for ECGR 4251 where credit has been given for ECGR 4241.

**ECGR 4252. Computer Engineering Senior Design II. (2)** Prerequisite(s): ECGR 4251 and Engineering major or minor. A continuation of ECGR 4251 consisting of project development and analysis, culminating in written and oral presentations. Credit will not be given for ECGR 4252 where credit has been given for ECGR 4242.

**ECGR 4261. Microwave Circuit Design I. (3)** Prerequisite(s): E ECGR 3120 with a grade of C or better, or permission of department; and Engineering major or minor. Design and analysis of microwave devices and circuits; Telegrapher's and wave equations; physical transmission lines; circuit analysis techniques; impedance matching techniques; and Wilkinson power dividers, hybrid couplers, transformers, and filters.

**ECGR 4290. Science and Technology of Photovoltaics. (3)** Prerequisite(s): ECGR 3130 with grade of C or above, or permission of the department; and Engineering major or minor. Review of semiconductor properties; junctions and operating principles of solar cells; efficiency limits and losses in solar cells; solar cells and sunlight; fabrication of solar cell and modules; design of high efficiency silicon solar cells; heterojunction, thin film, and other promising solar cells; and photovoltaic systems and applications.

**ECGR 4311. Digital Audio Workstations. (3)** Prerequisite(s): ECGR 3111 and ECGR 3131. Students learn to use Digital Audio Workstation (DAW) software for music and other audio data. Topics include: recording and importing audio and MIDI data, basic editing and mixing, effects processing, and mastering. Some audio hardware concepts are also introduced, including compression, equalization, microphones, mixers, and studio monitors.

**ECGR 4312. Electronic Music Synthesis. (3)** Prerequisite(s): ECGR 3131; and ECGR 4123 or ECGR 4124. The basics of electronic music synthesis using both software and hardware, analog and digital controllers, voltage controlled oscillators (VCO), envelope generators, voltage controlled filters (VCFs), and low frequency oscillators (LFOs). A variety of techniques are covered, including modular, subtractive, and additive synthesis, and effects such as tremolo and vibrato.

**ECGR 4333. VLSI Systems Design. (3)** Prerequisite(s): ECGR 2181 and either ECGR 3130 or ECGR 3131, both with grades of C or above, or permission of department; and Engineering major or minor. Analysis, design, and synthesis of very large scale integrated circuits. A project-oriented course relying heavily on computer-aided design tools for logic, layout design, and simulation.

**ECGR 4422. Random Processes and Optimum Filtering. (3)** Prerequisite(s): ECGR 3111 and STAT 3128 or permission of department; and Engineering major or minor. Review of probability, univariate and multivariate distribution functions; random processes, discrete and continuous time processes, widesense stationary, ergodicity; time- and frequency-domain analysis; linear systems, optimum filtering, Wiener filters, Kalman filters; application.

**ECGR 4892. Individualized Study. (1 to 6)** Prerequisite(s): Engineering major or minor. Individual investigation and exposition of results. *May be repeated for credit.*

# Economics (ECON)

**ECON 1101. Economics of Social Issues. (3)** Economic issues without emphasis on theoretical models. Contemporary economic issues such as pollution control, healthcare, unemployment, and crime are studied. A student is ineligible to take this course if credit has already been received for either ECON 2101 or ECON 2102.

**ECON 1501. Global Social Science: Economics of Global Issues. (3)** All Global Theme courses explore the central, unifying question of what it means to be a citizen of the world. Through the study of one or more different peoples, societies or cultures across the globe students will be able to better understand themselves as part of a complex, interconnected world. This course is a survey of relevant interdisciplinary economic issues and policy involving real-world applications. Contemporary economic issues covered may include international trade, growth and economic development, recession, world poverty, discrimination, unemployment, financial security, government macroeconomic policies. A student is ineligible to take this course if credit has already been received for either ECON 2101 or ECON 2102.

**ECON 2101. Principles of Macroeconomics. (3)** Prerequisite(s): Sophomore, Junior, or Senior standing. An introduction to the scope and methodology of economics as a social science. It covers key macroeconomic topics, including the measurement of national income, theories of its determination, money and banking, monetary and fiscal policy, and international economics.

**ECON 2102. Principles of Microeconomics. (3)** Prerequisite(s): Sophomore, Junior, or Senior standing. Examines the fundamental principles of microeconomics, focusing on the pricing mechanism of a market economy and the industrial organization of the U.S. economy. It also covers the problems of economic concentration, the theory of income distribution, and a comparison of different economic systems.

**ECON 3090. Topics in Economics. (3)** Prerequisite(s): Permission of department. Topics from the areas of economic theory, economic development, consumer economics, welfare economics, and current economic problems. *May be repeated for credit.*

**ECON 3112. Econometrics. (3)** Prerequisite(s): ECON 2101 and ECON 2102; MATH 1120 or MATH 1241; STAT 1220; and INFO 2130; all with grades of C or above. Econometric techniques, including simple and multiple least squares regression with problems and analyses.

**ECON 3115. Money and Banking. (3)** Prerequisite(s): ECON 2101 and ECON 2102; MATH 1120 or MATH 1241; and STAT 1220 or equivalent; all with grades of C or above. Basic economic theory is used to understand how financial markets, the monetary system, banks, and financial institutions work. There is a specific focus on the basic economic purpose of these institutions, how they interact with households and firms, and how economic policy interacts with these institutions.

**ECON 3122. Intermediate Microeconomics. (3)** Prerequisite(s): ECON 2101; ECON 2102; MATH 1120 or MATH 1241; and STAT 1220 or equivalent; all with grades of C or above. Microeconomic analysis with emphasis on consumer theory and the theory of production. Resource allocation and the determination of optimum output and pricing by a firm operating under various market structures. Distribution and welfare theories.

**ECON 3123. Intermediate Macroeconomics. (3)** Prerequisite(s): ECON 2101; ECON 2102; MATH 1120 or MATH 1241; and STAT 1220 or equivalent; all with grades of C or above. Macroeconomics studies the evolution of the aggregate economy. At the intermediate level the focus is on how the interaction of individual, household, and firm decisions add up to aggregate macroeconomic statistics, such as GDP (both level and growth), aggregate employment and unemployment, or aggregate inflation. Macroeconomic data as well as related theoretical models are analyzed. Predictions of these theoretical models are used to study policy decisions such as interest rate policy by central banks and tax/transfer policy by fiscal authorities.

**ECON 3125. Managerial Economics. (3)** Prerequisite(s): ECON 2102; MATH 1120 or MATH 1241; STAT 1220 or equivalent; and INFO 2130; all with grades of C or above. Introduces the use of analytics in applying microeconomic theory to real-world business decisions. Students will explore demand forecasting, cost analysis, and pricing strategies. Quantitative and AI tools are utilized to analyze data and build economic models for better decision-making.

**ECON 3151. Law and Economics. (3)** Prerequisite(s): ECON 2102 with grade of C or above. The application of microeconomic concepts to the law with an emphasis on examining the impact of laws on resource use, with the goal of using resources efficiently. The emphasis is on property, contract, tort, and criminal law.

**ECON 3171. International Business Economics. (3)** Prerequisite(s): ECON 2101 and ECON 2102 with grades of C or above. Examines the economic forces shaping global trade and investment and their welfare implications. Topics include the determinants of international trade patterns, international trade policy and economic integration, international monetary systems, exchange rates and exchange rate systems, the balance of payments, and the impact of globalization on national economies. Emphasis is on linking theory to current international economic events, policy debates, and business decision-making in global markets.

**ECON 3181. Sports Economics. (3)** Prerequisite(s): ECON 2101 and ECON 2102 with grades of C or above, and Junior or Senior standing. Application of economic principles to professional and amateur sports. Topics include: league structure, team decision-making, labor relations, incentive structures, college athletics, and stadium financing.

**ECON 3400. Economic Internship. (3)** Prerequisite(s): Junior or Senior standing; and Economics major or minor in good standing. Provides a meaningful work experience in the field of economics. Requires a minimum of 150 hours of supervised employment, 50 hours of work per credit hour. Student is responsible for securing internship and completing internship application and approval process prior to registering for the course. Internship must be approved by instructor. Application process and course registration must be completed prior to beginning internship. All proposals are subject to departmental approval. Students may not earn internship credit for work at a current employer. May be used to meet requirements of a major or minor elective, up to a maximum of three credit hours. Cannot be taken for credit at the same

time or following any other internship for credit. *Graded on a Pass/No Credit basis.*

**ECON 3895. Directed Individual Study. (1 to 3)** Prerequisite(s): Permission of instructor and the department. Independent study of a theoretical and/or a policy problem in a special area of economics. Students may pursue a particular program in depth. Topics of the investigation may originate from the student or from the faculty member supervising the study. *May be repeated for credit.*

**ECON 4100. Economic Modeling. (3)** Prerequisite(s): ECON 2101 and ECON 2102; and MATH 1120 or MATH 1241; all with grades of C or above. Applies quantitative techniques to analyze both microeconomic and macroeconomic problems. It emphasizes the mathematical formulation of economic relationships and the use of tools to find maximums, minimums, and limits in single, recursive, and simultaneous economic models.

**ECON 4106. Labor Economics. (3)** Prerequisite(s): ECON 2101 and ECON 2102; MATH 1120 or MATH 1241; and STAT 1220 or equivalent. Cross-listed Course(s): ECON 5106. Economics of labor markets with emphasis on wage and employment theory, collective bargaining, and human capital theory. Historical and legal forces affecting labor markets.

**ECON 4112. Advanced Econometrics. (3)** Prerequisite(s): ECON 2101, ECON 2102, and ECON 3112; INFO 2130; MATH 1120 or MATH 1241; and STAT 1220 or equivalent; all with grades of C or above; or permission of instructor. Investigates advanced data analysis techniques commonly used by economists, focusing on applications, understanding the strengths and limitations of the methods involved, using statistical and econometric software, and interpreting results. Techniques covered include, but are not limited to, models for dependent variables that are binary in nature, estimation of nonlinear relationships, analysis of panel data (pooled cross-sectional and time series data), and consequences of violation of the classical linear regression model assumptions.

**ECON 4116. Government Spending and Taxation. (3)** Prerequisite(s): ECON 2101, ECON 2102, and ECON 3122; MATH 1120 or MATH 1241; and STAT 1220 or equivalent; all with grades of C or above. Introduces the principles of public finance, focusing on how governments raise revenue and allocate resources to address economic and social challenges. Students will analyze taxation, government spending, and policy design to understand their impact on efficiency, equity, and economic outcomes.

**ECON 4117. Business Forecasting & Analytics. (3)** Prerequisite(s): ECON 2101, ECON 2102, and ECON 3112; INFO 2130; MATH 1120 or MATH 1241; and STAT 1220 or equivalent; all with grades of C or above; or permission of instructor. Analyzes fluctuations in economic activity, such as production, employment, and prices. It covers various forecasting methods, business cycle theories, and historical trends to predict future economic conditions for both the broader economy and specific industries.

**ECON 4135. Economics of Growth and Development. (3)** Prerequisite(s): ECON 2101 and ECON 2102; MATH 1120 or MATH 1241; STAT 1220 or equivalent; all with grades of C or above. Theories of economic growth and development applied to varying economic and social systems. Emphasis on current theoretical models of technological innovation and growth.

**ECON 4141. Health Economics. (3)** Prerequisite(s): ECON 2101 and ECON 2102; MATH 1120 or MATH 1241; and STAT 1220 or equivalent; all with grades of C or above. Cross-listed Course(s): ECON 5141. The application of microeconomic concepts to markets for health/medical care, including issues such as healthcare delivery, financing, regulation, and costs.

**ECON 4150. Urban and Regional Economics. (3)** Prerequisite(s): ECON 2101 and ECON 2102; MATH 1120 or MATH 1241; STAT 1220 or equivalent; all with grades of C or above. Spatial and economic organization of cities and regional areas and their special economic problems. Topics include: economic growth, urban location and land use, poverty, housing, public finance, and urban transportation.

**ECON 4161. Game Theory. (3)** Prerequisite(s): ECON 2101 and ECON 2102; MATH 1120 or MATH 1241; and STAT 1220 or equivalent; all with grades of C or above; or permission of instructor. First course in game theory. The beginning of the course focuses on developing the techniques necessary to solve games. In the latter part of the course, game theoretic analysis is applied to a variety of topics, including, but not limited to, principal agent problems, auctions, and voting. Students see how the tools developed early in the course can be applied to a vast array of problems in economics and related disciplines.

**ECON 4171. Economics of International Trade. (3)** Prerequisite(s): ECON 2101 and ECON 2102; ECON 3122 or ECON 3171; MATH 1120 or MATH 1241; STAT 1220 or equivalent; all with grades of C or above. Theory of international trade, including determination of international trade patterns, welfare implications of international trade, economic integration, and effects of tariffs and quotas.

**ECON 4172. Economics of International Finance. (3)** Prerequisite(s): ECON 2101 and ECON 2102; ECON 3123 or ECON 3171; MATH 1120 or MATH 1241; STAT 1220 or equivalent; all with grades of C or above. Survey of international monetary theory. Topics include: exchange rate determination, balance of payments and adjustment, international liquidity, capital movements, international financial organizations, and monetary reform proposals.

**ECON 4177. History of Economic Thought. (3)** Prerequisite(s): ECON 3122 and ECON 3123 with grades of C or above (one of the two courses may be taken as a corequisite). History of economics as a science and the evolution of theories of value, distribution and employment. Review of the works of Adam Smith, Thomas Malthus, David Ricardo, Karl Marx, Alfred Marshall, Thorstein Veblen, and John Maynard Keynes.

**ECON 4180. Market Structure and Strategy. (3)** Prerequisite(s): ECON 2102 and ECON 3122; MATH 1120 or MATH 1241; and STAT 1220 or equivalent; all with grades of C or above. An examination of monopolistic competition, oligopoly, and monopoly and questions of public policy in dealing with problems created by industrial concentration.

**ECON 4181. Environmental Economics. (3)** Prerequisite(s): ECON 2102 with grade of C or above. Introduces the tools of environmental economics, emphasizing cost-benefit analysis for evaluating policies related to natural resources, pollution, and sustainability. Topics include the economics of energy use, market-based solutions, and the trade-offs involved in balancing economic growth with environmental protection.

**ECON 4182. Economics of Artificial Intelligence. (3)** Prerequisite(s): Junior status. Cross-listed Course(s): ECON 5182. Examines artificial intelligence through an economic lens, analyzing its impacts on productivity, innovation, labor markets, competition, and long-run growth. Students will develop technical literacy (understanding how AI works) and economic fluency (applying economic frameworks to analyze AI's implications).

**ECON 4200. Senior Seminar. (3)** Prerequisite(s): ECON 3112, ECON 3122, and ECON 3123, all with grades of C or above; Economics major; and Senior standing. An integrative capstone course for the Economics major that should normally be taken during the student's last semester of study. The primary objective is to provide a framework in which Senior Economics majors can review and solidify their understanding of economic concepts by applying those concepts to specific economic issues. Topics vary. Analytical ability and written and oral communication skills are assessed.

# Education (EDUC)

**EDUC 1000. Introductory Topics in Education. (1 to 6)** May include classroom and/or clinical experiences related to schooling, teaching, learning, educational policy, and/or curriculum. *May be repeated for credit with change of topic and permission of department.*

**EDUC 1100. Foundations of Education and Diversity in Schools - Prospect Curriculum. (4)** For Freshmen students interested in the field of education and the teaching professions. Provides a foundational introduction to education including the social, historical, and philosophical foundations, the organization and various levels of schools, and major issues in American education. 12 hours of field-based activities in school and non-classroom settings are required. Includes the University Prospect for Success engagement curriculum. Students who have earned credit for EDUC 1511 may not take EDUC 1100.

**EDUC 1511. Local Social Science: Public Education and Schooling in the U.S. (3 to 4)** All Local Theme courses explore the central, unifying question of what it means to be a member of the "local" community in which we live. Through the study of the experiences of different peoples, cultures, and communities in our city, our region, or our nation students will be able to better understand themselves in the context of the complex and diverse society in which we live. As education impacts us all and schools are sites of opportunity, change, and even controversy, this class will explore major interdisciplinary issues of education in America including social, historical and philosophical ideas pertaining to education. This class is designed for any student seeking to explore PreK-12 education and will include experiential opportunities to learn more about schools and advocacy opportunities for education as a change agent within society. *May not be taken for credit and for a grade if credit has been received for EDUC 2100.*

**EDUC 2100. Foundations of Education and Diversity in Schools. (3)** For students interested in the field of education and the teaching professions. An introduction to education, including the social, historical, and philosophical foundations, the organization and various levels of schools, and major issues in American education. 12 hours of field-based activities in observing in school and non-classroom settings are required. Students who have earned credit for EDUC 1100 may not take EDUC 2100. *May not be taken for credit and for a grade if credit has been received for EDUC 1511.*

**EDUC 3200. Service Learning Teaching Methods for K-12 Educators. (3)** In-depth service learning opportunities for students who will become public school educators. Definitions of community service, volunteerism, democratic education, service-learning pedagogy, community partnership, and leadership are examined.

**EDUC 3400. Education Internship. (0)** Prerequisite(s): A 2.5 GPA and approval by the College internship coordinator. Enrollment in this course is required for students involved in professional work experiences offered through the College of Education internship program. Assignments must be arranged and approved in advance. *May be repeated for credit. Graded on a Satisfactory/Unsatisfactory basis.* Only open to undergraduate students; graduate level students are encouraged to contact their academic departments to inquire about academic or industrial internship opt ions for credit. For more information, contact the Office of Teacher Education Advising and Licensure (TEAL) in the College of Education.

**EDUC 3500. Education Cooperative Education Experience. (0)** Prerequisite(s): A 2.5 GPA and approval by the College internship coordinator in conjunction with the University Career Center. Enrollment in this course is required for students involved in professional work experiences offered through the cooperative education program. Participating students pay a course registration fee for transcript notation. Assignments must be arranged and approved in advance. The Cooperative Education Program is only open to undergraduate students; graduate level students are encouraged to contact their academic departments to inquire about academic or industrial internship options for credit. For more information, contact the University Career Center. *Course may be repeated. Graded on a Satisfactory/Unsatisfactory basis.*

**EDUC 3600. Teaching Fellows Seminar. (1)** Prerequisite(s): Membership in good standing in the North Carolina Teaching Fellows Program. A discussion-oriented course in contemporary school issues led by the program's director to cover Teaching Fellows Program expectations and prepare students to participate in required school, community, campus, and other enrichment activities. *May be repeated for credit.*

**EDUC 3601. Mebane Early Literacy Scholar Seminar. (1)** Prerequisite(s): To enroll in this course, students must be participating in the Mebane Early Literacy Scholars Program. The goal of the Mebane Early Literacy Scholars Professional Learning Community is to build Scholars' knowledge and skill in the area of early and elementary literacy education. Scholars gain hands-on experiences beyond their regular coursework through participating in enhanced clinical training and practice, and in instructional mentoring experiences. They engage in schools and the community, and in planning and organizing community- and family-engagement events focused on early literacy education. *May be repeated for credit up to 4 credit hours.*

**EDUC 3789. Seminar: Honors in Education. (3)** Prerequisite(s): Admission to the Honors in Education program. Prepares Honors students for a successful Honors project by introducing them to the Honors in Education program and by helping them identify an appropriate committee chair and reader. Also covers guidelines for preparing an Honors project, including appropriate designs and themes. Culminates in the presentation and defense of an acceptable Honors project proposal.

**EDUC 3790. Honors Thesis in Education. (3)** Prerequisite(s): EDUC 3789 with grade of C or above; and approval of a proposal through the Honors College Application to Candidacy process the semester prior to taking the course. Honors students conduct their research and data analysis, and they write and defend their thesis before their honors committee. A grade of A is required for honors recognition from UNC Charlotte. The thesis must be approved and substantially completed (only minor editorial revisions may remain) prior to the student teaching seminar.

**EDUC 4000. Topics in Education. (1 to 6)** Prerequisite(s): Admission to a Teacher Education program, major, or minor. May include classroom and/or clinical experiences in the content area. *May be repeated for credit with change of topics and permission of department.*

**EDUC 4100. Considerations for an Inclusive Society. (3)** Prerequisite(s): Admission to the Inclusion, Disability, and Exceptionality in American Society Minor or the Collaborative Educators in Inclusive Schools Minor. Pre- or Corequisite(s): SPED 2100. Introduces societal considerations when supporting individuals who differ from the mainstream including those with a disability or who are English learners. Focuses on the theoretical questions of how society predominantly understands and interacts with differing populations and the implications of these viewpoints and practices. Examines social, cultural, political, and economic determinants within society. Discusses the history, values, and assumptions about varied individuals in society with an examination of the relationship between disability, ethnicity and language, and social class with social change and equitable access to opportunity.

**EDUC 4200. Current Issues in Global Education. (3)** Prerequisite(s): Completion of Phases I and II of the Minor in Applied Understandings in Global Education: EDUC 1100 or EDUC 1511; GLST 1501; GLST 2100, GLST 2121, or GLST 2131. Students demonstrate an understanding of global issues that impact local teaching and learning ideals. The course is reading and writing intensive, as students are required to reflect on and analyze instruction for diverse learners using a variety of flexible and adaptable instructional methods appropriate for learning in a globalized educational context. Focuses on issues that students may choose to explore in depth during their study abroad/local experience and through the capstone course of the Minor in Applied Understandings in Global Education.

**EDUC 4201. Education and Globalization: Theory and Practice Seminar. (3)** Prerequisite(s): Completion of Phases I and II of the Minor in Applied Understandings in Global Education: EDUC 1100 or EDUC 1511; GLST 1501; GLST 2100, GLST 2121, or GLST 2131. Pre- or corequisite: EDUC 4200. Students showcase global issues that impact local teaching and learning ideals researched in EDUC 4200 and address action steps toward potential solutions. The course is writing and public speaking intensive, as the seminar prepares candidates to develop a presentation and present it before an audience of faculty, community members, and students. The purpose of the showcase is for candidates to disseminate knowledge gained during their in-depth exploration on a topic related to learning in a globalized educational context (initiated in EDUC 4200 and further explored during their study abroad/local experience). The aim of the showcase presentation is to educate and inform the audience and begin to advocate for global education.

**EDUC 4290. Inclusion of Students with Varied Learning Needs. (3)** Prerequisite(s): Admission to Teacher Education. Corequisite(s): enrollment in methods course(s) with field experience requirement. Strategies for promoting a positive learning environment using universal evidence-based practices designed to increase access to general education and standard instruction for all students, including students at risk for school failure, individuals from varied cultural and linguistic backgrounds, learners identified as gifted, and students with disabilities.

**EDUC 4291. Modifying Instruction for Learners with Diverse Needs in Secondary Schools. (3)** Prerequisites for Secondary Education Minors: MDSK 2100, MDSK 3151, and SECD 4140. Corequisites for Secondary Education Minors: READ 3255 and one of the following: MDSK 4251, MDSK 4253, ENGL 4254, or MAED 4252. Strategies for adapting standard instruction to meet the learning needs of all members of secondary classrooms, including students at risk for school failure, individuals from culturally and linguistically diverse backgrounds, gifted learners, and students with disabilities.

**EDUC 4292. Collaborative Inclusive Co-Planning and Co-Teaching. (3)** Prerequisite(s): EDUC 4100, and EDUC 4290; Admission to the Collaborative Educators in Inclusive Schools Minor. The course is designed to provide opportunities for students to develop knowledge and skills of effective collaborative behaviors and language; review and practice collaborative co-teaching lesson plans previously completed in EDUC 4290; and build effective partnerships among professionals (e.g., teachers, paraprofessionals, related service personnel, and/or human service personnel) working with PreK-12 individuals with exceptionalities and multilingual learners in inclusive learning environments. The knowledge base acquired in this course includes the practice of effective communication skills, and understanding the influence of cultural diversity when engaging in co-teaching and teaming in working with students with disabilities and multilingual learners. Students will be engaged in continuous reflective activities throughout the course which will enable them to self-assess and make improvements in their knowledge and skills learned in this course. Students enrolled in this course will complete a minimum of 15 to 25 clinical field experiences in a school and/or agency site. (*Spring only*)

**EDUC 4293. Universal Design: Considerations for Technology and Society. (3)** Prerequisite(s): EDUC 4100; Admission to the Inclusion, Disability, and Exceptionality Minor. Pre- or Corequisite(s): SPED 2100. Introduces the theory and practice of Universal Design (UD) including inclusive design principles for developing accessible technology. Students will consider accessibility in physical environments, communication (including assistive technologies), and common use technology, with targeted content regarding artificial intelligence (AI) and its use and impact for all individuals, including those with a disability. Students will consider laws and legislation that support UD as well as policies regarding privacy and reflect on the implications of UD within their field of study.

# Education – Learning, Design, and Technology (ELDT)

**ELDT 4100. Foundations for Effective Technology Integration. (3)** Instructional methods and technological tools for innovative and effective teaching and learning. Hybrid and online delivery methods will

be explored. Other significant topics include models of technology integration and lesson planning, tools for instruction and communication, building professional learning networks, and leveraging technology to meet the needs of all learners.

**ELDT 4135. Audiovisual Communications. (3)** Prerequisite(s): Junior or Senior standing or departmental approval. Overview of traditional and emerging audiovisual media for education, training, marketing, and public relations, emphasizing knowledge and skills for evaluating, designing, producing, and using media such as photography, television, displays, interactive video, and microcomputers to enhance communication.

**ELDT 4140. Educational Television. (3)** Prerequisite(s): Junior or Senior standing or departmental approval. An examination of traditional and emerging applications of telecommunications media for teaching, training and informing. Investigation of published research and current strategies for evaluating the social and educational impact of television. Students will evaluate, design, produce, and utilize telecommunications media in micro-teaching settings for the enhancement of communication in their respective disciplines.

# Elementary Education (ELED)

**ELED 3111. Instructional Design and Assessment in Elementary Education. (3)** Prerequisite(s): Admission to Elementary Education Program. The study of the development of curriculum and instructional design with a focus on developing teaching techniques to increase student performance. Candidates are introduced to standards and resources of elementary school curriculum and assessment, and they create, implement, and assess instructional segments developed using curriculum standards and student performance.

**ELED 3120. The Elementary School Child. (3)** Prerequisite(s): Admission to Teacher Education. Child development theories and research findings, conceptual relationships between education and developmental paradigms, pathways of individual student development, child-centered and other types of educational reforms, the concept of developmental "needs" and the roles and responsibilities of school staff for meeting children's developmental needs. Includes approximately 10 hours of field activities.

**ELED 3221. Teaching Science to Elementary School Learners. (3)** Prerequisite(s): Admission to Teacher Education. Teaching strategies and materials appropriate for teaching inquiry science in grades K-6 with emphasis on using science process skills and content to develop effective science learning experiences for elementary school children. Includes 10 hours of field experiences.

**ELED 3223. Teaching Social Studies to Elementary Learners. (3)** Prerequisite(s): Admission to Teacher Education. Instructional methods for teaching and integrating social studies, economics, history, civics, and geography in elementary schools. Focuses on problem-solving, critical thinking, and democratic citizenship with strategies to develop and differentiate effective instructional plans for elementary school children.

**ELED 3228. Elementary Language Arts and Writing. (3)** Prerequisite(s): Admission to Teacher Education. Teaching of language arts in grades K-6, including how the study of language acquisition and growth informs and guides instructional practice. Emphasis on methods for fostering growth in speaking, listening, writing, and reading across the curriculum. Includes 10 hours of field experiences.

**ELED 3800. Individual Study in Elementary Education. (1 to 6)** Prerequisite(s): Permission of the student's advisor. Independent study under the supervision of an appropriate faculty member. *May be repeated for credit.*

**ELED 4121. Assessment and Instructional Differentiation in the Elementary School Classroom. (3)** Prerequisite(s): Admission to Teacher Education. Addresses advanced concepts for planning for K-6 classroom measurement and evaluation and the development and use of various types of classroom assessment. Emphasis is placed on using the results of assessment to modify instruction, as well as the incorporation of best practices in differentiated instruction. Also explores concepts and skills related to communicating student progress and various forms of technology useful for assessing student progress.

**ELED 4122. Creating an Effective Environment in the Elementary School Classroom. (3)** Prerequisite(s): Admission to Teacher Education. Presents research-based concepts, methods, and practices used by effective teachers in the elementary school classroom. There is an emphasis on best practices of effective classroom management and how to establish a productive classroom climate. Candidates explore methods for increasing student motivation in diverse classroom settings, building positive student-teacher relationships, proactively managing student behavior, and establishing effective parent and community partnerships.

**ELED 4220. Instructional Planning for Elementary Learners. (3)** Prerequisite(s): Admission to Teacher Education. Curriculum planning and development with an emphasis on designing and implementing cross-curricular activities within the elementary classroom setting. Explores research-based practices of a variety of teaching strategies and pedagogies to meet the instructional needs of all learners.

**ELED 3292. Theories and Practice in Urban Education. (3)** Prerequisite(s): Admission to Elementary Education Program and completion of all ELED coursework except 4000-level courses. Designed to increase student awareness, knowledge, and understanding of core concepts associated with urban educational settings. Participants are introduced to the educational models, theories, and practices necessary to support learners within these contexts.

**ELED 4420. Student Teaching/Seminar: K-6 Elementary Education. (15)** Prerequisite(s): Student teaching is a planned sequence of experiences in the student's area of specialization conducted in an approved school setting under the supervision and coordination of a university supervisor and a clinical educator. During student teaching, the student must demonstrate the competencies identified for their specific teaching field in an appropriate grade level setting. The student is assigned 15 weeks in a school setting. Includes seminars. Participating students pay a course registration fee for edTPA portfolio assessment. *Graded on a Pass/No Credit basis.*

# Electrical Engineering Technology (ELET)

**ELET 1102. C Programming. (3)** Prerequisite(s): Engineering major or minor. An introduction to the C programming language with an emphasis on applications in Electrical Engineering Technology.

**ELET 1211. DC Circuits. (3)** Pre- or Corequisite(s): MATH 1103. An introduction to electric circuits with an emphasis on DC circuit analysis and design. Topics include: fundamental electrical and magnetic principles, circuit analysis laws and theorems, and component characteristics and behaviors..

**ELET 1231. Digital Circuits. (3)** Corequisite(s): ELET 1231L. Fundamental digital concepts including number systems, logic gates, Boolean algebra, Karnaugh Maps, and combinational logic. Topics include: combinational digital circuit design and analysis, minimization methods, and hardware descriptor languages such as VHDL.

**ELET 1231L. Digital Circuits Laboratory. (1)** Prerequisite(s): Engineering major or minor. Corequisite(s): ELET 1231. This laboratory course supports concepts and practices covered in ELET 1231. Meets for three (3) laboratory hours per week.

**ELET 2112. AC Circuits. (3)** Prerequisite(s): ELET 1211 with grade of C or above. Corequisite(s): ELET 2112L. The continuation of an introduction to electric circuits with an emphasis on AC circuit analysis and design. Topics include: application of electrical and magnetic principles, analysis laws and theorems in AC circuits, an introduction to frequency response and circuit behaviors under AC excitation.

**ELET 2112L. AC Circuits Laboratory. (1)** Prerequisite(s): Engineering major or minor. Corequisite(s): ELET 2112. This laboratory course supports concepts and practices covered in ELET 2112. Meets for three (3) laboratory hours per week.

**ELET 2113L. DC/AC Circuits Laboratory. (1)** Prerequisite(s): ELET 1211 or AAS transfer course. Corequisite(s): ELET 2112. This laboratory course supports concepts and practices covered in ELET 1211 and ELET 2112.

**ELET 2221. Electronics I. (3)** Prerequisite(s): ELET 2112; and Engineering major or minor. Corequisite(s): ELET 2221L. An introduction to semiconductor electronic devices and circuits. Topics include: semiconductor diodes, bipolar junction transistors (BJTs), field-effect transistors (FETs), ideal operational amplifiers and the application of these solid state devices in basic circuits and systems.

**ELET 2221L. Electronics I Laboratory. (1)** Prerequisite(s): Engineering major or minor. Corequisite(s): ELET 2221. This laboratory course supports concepts and practices covered in ELET 2221. Meets for three (3) laboratory hours per week.

**ELET 2231. Microprocessor Fundamentals. (3)** Prerequisite(s): ELET 1231, and Engineering major or minor. Corequisite(s): ELET 1102. Application and design assembly and C language programming for AVR microprocessors. Topics include: system timing, bus cycles, interrupts, stacks and subroutines. Upon completion, students should be able to design, program, verify, analyze, and troubleshoot AVR assembly and C language programs.

**ELET 2241. Instrumentation and Controls. (3)** Prerequisite(s): ETGR 2106 or ETEM 2101; and Engineering major or minor. Corequisite(s): ELET 2241L. An introduction to instrumentation for measurement and control of physical variables, with an emphasis on electronic systems. Topics include: a review of basic circuit analysis, electrical instruments, sensors and measurement principles and a survey of automatic controls from a systems point of view.

**ELET 2241L. Instrumentation Laboratory. (1)** Prerequisite(s): Engineering major or minor. Corequisite(s): ELET 2241. This laboratory course supports concepts and practices covered in ELET 2241.

**ELET 2290. Sophomore Practicum. (3)** Prerequisite(s): ELET 1231, ETGR 1101, and Engineering major or minor. Pre- or Corequisite(s): ELET 2221. Introduction to the design process and project management techniques with an emphasis on Engineering Technology applications. Projects are completed individually and provide reinforcement of the design process introduced in ETGR 1101, along with an introduction to project management techniques and technical communication in written and oral formats. Laboratory prototypes are developed and tested. Selected project(s) require a formal presentation.

**ELET 3113. Network Analysis. (3)** Prerequisite(s): ELET 2112, and Engineering major or minor. Pre- or Corequisite(s): ETGR 2272 or MATH 1242. An introduction to frequency domain analysis through Laplace Transforms and Fourier Analysis. Topics include: a review of circuit analysis fundamentals in the time domain, circuit transformations, waveform analysis and synthesis and first order natural and forced response with extensive utilization of circuit simulation software.

**ELET 3132. Digital Systems. (3)** Prerequisite(s): ELET 1231, and Engineering major or minor. The design and implementation of digital systems. Topics include: combinational and sequential digital circuits, minimization methods, state machine design and state assignment techniques, hardware descriptor languages such as VHDL, circuit implementation using MSI integrated circuits and programmable logic devices.

**ELET 3132L. Digital Systems Laboratory. (1)** Prerequisite(s): ELET 1231, and Engineering major or minor. Pre- or Corequisite(s): ELET 3132. This laboratory course supports concepts and practices covered in ELET 3132. Meets for three (3) laboratory hours per week.

**ELET 3141. Power Systems and Machines. (3)** Prerequisite(s): ELET 2112, and Engineering major or minor. An introduction to electromagnetic fundamentals, power generation and distribution, AC and DC machines.

**ELET 3190. Junior Practicum. (3)** Prerequisite(s): ELET 2231, ELET 2290, or AAS transfer course. Focused on an open-ended, but defined, project that is completed in a team environment. Introduces, or reinforces, group project dynamics, a formal design process, project management, information dissemination in both written and oral forms; as well as project analysis, modeling, fabrication and demonstration. Provides the foundation for tools necessary to develop and implement a capstone project in Senior Design I and Senior Design II.

**ELET 3222. Electronics II. (3)** Prerequisite(s): ELET 2221, and Engineering major or minor. A continuation of the study of solid state devices begun in ELET 2221. Topics include: frequency response of single

and multistage amplifiers, feedback and stability, linear and nonlinear operational amplifier circuits, and CMOS and BiCMOS circuits with extensive utilization of circuit simulation software.

**ELET 3222L. Electronics II Laboratory. (1)** Prerequisite(s): ELET 2221, and Engineering major or minor. Pre- or Corequisite(s): ELET 3222. This laboratory course supports concepts and practices covered in ELET 3222.

**ELET 3232. Advanced Microcontroller Systems. (3)** Prerequisite(s): ELET 1102; ELET 2231; and Engineering major or minor. The application and design of ARM (Advanced RISC Machine) systems. Topics include: assembly and C language programming and an introduction to the control and interfacing of ARM based systems. Upon completion, students should be able to design, construct, program, verify, analyze and troubleshoot ARM assembly and C language programs and supporting hardware.

**ELET 3242. Fundamentals of Control Systems. (3)** Prerequisite(s): ELET 3113, and Engineering major or minor. Automatic control systems concepts, system modeling, control system components, state space model, transfer function model, time responses, poles and zeros, closed loop, reduction of multiple subsystems, stability analysis, Routh-Hurwitz, performance analysis, design techniques, root locus, Bode, Nyquist, PID, and MATLAB control tool box.

**ELET 4123. Active Filters. (3)** Cross-listed Course(s): ENER 5123. Prerequisite(s): ELET 3113; ELET 3222; and Engineering major or minor. The design, analysis, simulation and implementation of composite, cascaded and summation filters. Topics include: bilinear transfer functions; cascade design with first-order circuits; biquad circuits; Butterworth lowpass circuits; Butterworth bandpass circuits; the Chebyshev response; sensitivity; frequency transformations; highpass and band-elimination filters.

**ELET 4133. Embedded Systems. (3)** Prerequisite(s): ELET 3232 and Engineering major or minor. The external characteristics of digital and analog integrated circuits and their applications when interfaced to embedded digital systems. Design constraints and considerations due to device limitations and device selection based upon application requirements will be discussed. Upon completion, students should be able to design, program, verify, analyze, and troubleshoot hardware and software in embedded systems.

**ELET 4142. Power Electronics. (3)** Prerequisite(s): ELET 3222, and Engineering major or minor. An introduction to power electronic devices in electrical systems, including their characteristics, operation, and application.

**ELET 4243. Power Networks. (3)** Prerequisite(s): ELET 3141, and Engineering major or minor. Study and design of electric power transmission and distribution systems. Topics include: power network components design and interconnection, system studies, national grid and microgrid power distribution, and grid monitoring and control.

# English (ENGL)

**ENGL 1201. English Learning Community. (1)** A continuation of the English Learning Community's First-Year Seminar course which provides time to meet with faculty and English student organizations, as well as maintain the student community through the duration of the first-year experience.

**ENGL 1502. Global Arts/Humanities: Global Connections in English Studies. (3)** Introduction to a range of oral, written, printed, visual, and/or digital texts from global communities and cultures, paying attention especially to language, diverse perspectives, modes of creation, and/or pedagogical approaches.

**ENGL 1512. Local Arts/Humanities: Local Connections in English Studies. (3)** Introduction to a range of oral, written, printed, visual, and/or digital texts from local communities and cultures, paying attention especially to language, diverse perspectives, modes of creation, and/or pedagogical approaches.

**ENGL 2015. Topics in Writing. (1 to 3)** Offers instruction and practice in special types of writing, such as writing for publication (exclusive of poetry, drama, and fiction), which are not included in other writing courses. In addition, some sections may offer instruction in various aspects of effective writing. *Not more than* three hours of 2015 may be used toward the requirements for the English major (and those three hours may not be used toward fulfillment of the 12 hours of English language or composition required for licensure in English). The *maximum hours of credit* allowed for any student are six for ENGL 2015.

**ENGL 2050. Topics in English. (3)** Designed to offer topics of general interest not included in other courses. *May be repeated for credit with permission of department.*

**ENGL 2051. Topics in English - Writing Intensive. (3)** Designed to offer topics of general interest not included in other courses. *May be repeated for credit with permission of department.* Fulfills General Education writing goal.

**ENGL 2072. Topics in Literature and Film. (3)** Critical study of the intersections of literature and film. *May be repeated for credit with change of topic.*

**ENGL 2074. Topics in Children's/YA Literature, Culture, and/or Media. (3)** Study of works for children and/or young adults such as literature and/or other media, including film, television, digital narratives, games, and/or comics. *May be repeated with change of topic.*

**ENGL 2079. Special Topics in Creative Writing. (3)** Introductory study, exploration, and application of creative writing forms or genres.

**ENGL 2081. Topics in Author, Pop Culture, and Genre Studies. (3)** Selected topics in author, pop culture, and genre studies. *May be repeated for credit with change of topic.*

**ENGL 2082. Topics in Film, Performance, and Print & Digital Culture. (3)** Selected topics in film, performance, and print and digital culture. *May be repeated for credit with change of topic.*

**ENGL 2083. Topics in Genders, Sexualities, and Literature. (3)** Selected topics in genders, sexualities, and literature. *May be repeated for credit with change of topic.*

**ENGL 2084. Topics in Global Cultures, Identities, and Diverse Literatures. (3)** Selected topics in global cultures, identities, and diverse literatures. *May be repeated for credit with change of topic.*

**ENGL 2085. Topics in Literature, Science, and the Environment. (3)** Selected topics in literature, science, and the environment. *May be repeated for credit with change of topic.*

**ENGL 2090. Topics in English. (3)** Special topics not included in other courses. *May be repeated for credit with change of topic.*

**ENGL 2100. Writing About Literature. (3)** Prerequisite(s): Must be enrolled in one of the following Fields of Study (Major, Minor, or Concentration): Architectural History and Criticism; Child & Family Development Studies; Diverse Literatures and Cultural Studies; Elementary Education; English; Middle Grades Education; Special Education. Combined practice in writing and study of literature, emphasizing writing processes, including revision.

**ENGL 2106. Film Criticism. (3)** Introduction to film as an art form. Emphasis will be on the critical analysis of the form and the content of films with attention to issues of visual narrative, audience, cinematography, editing, acting, etc.

**ENGL 2108. Introduction to Drama. (3)** Representative plays of the western world from the classical period to the modern period to introduce students to drama as literature, with consideration of staging, conventions of the theater, types of drama, and dramatic theory.

**ENGL 2116. Introduction to Technical Communication. (3)** Technical Communication theory (such as organization, audience analysis, and editing) is taught in the context of oral and written formats, such as memoranda, proposals, reports, PowerPoint presentations, and includes formats and content common to students' own disciplines.

**ENGL 2126. Introduction to Creative Writing. (3)** A broad introduction to fundamental concepts in creative writing, including the genres of poetry, fiction, and creative nonfiction. Students read and discuss a range of contemporary creative works and compose original poems and prose.

**ENGL 2127. Introduction to Poetry Writing. (3)** Introduces students to fundamental concepts in reading, writing, and critiquing poetry. Students read and discuss a range of contemporary poetry and aspects of poetics; they also write original poems and bring them to a workshop for group critique.

**ENGL 2128. Introduction to Fiction Writing. (3)** Introduces students to fundamental concepts in reading, writing, and critiquing fiction. Students read and discuss a range of contemporary fiction and study aspects of fictional craft and genre; they also write original fiction and bring it to a workshop for group critique.

**ENGL 2161. Grammar for Writing. (3)** A systematic, hands-on review of the grammar behind professional copy editing for academic and public submission, including techniques for using sentence structure, word choice, and information management to make texts intuitively appealing without sacrificing precision and to maximize reading speed.

**ENGL 2201. Contemporary Poetry. (3)** Introduction to current trends in American and world poetry. Encourages creativity and scholarly engagement with the exciting and multifaceted world of contemporary poetry.

**ENGL 2202. Contemporary Fiction. (3)** Introduction to current trends in contemporary fiction. Encourages creative and scholarly engagement with the world of contemporary fiction.

**ENGL 2301. Introduction to African American Literature. (3)** Cross-listed Course(s): AFRS 2301. Survey of the major periods, texts, and issues in African American literature.

**ENGL 2400. American Literature Survey. (3)** Surveys the whole of American literature from the Colonial to the Modern period. Major authors and literary movements, as well as important ideas and cultural issues are addressed.

**ENGL 2401. British Literature Survey I. (3)** Surveys British literature from the Medieval period to the Renaissance. Major authors and literary movements as well as important ideas and cultural issues are addressed.

**ENGL 2402. British Literature Survey II. (3)** Surveys British literature from the Neoclassical to the Modern period. Major authors and literary movements, as well as important ideas and cultural issues are addressed.

**ENGL 3050. Topics in English. (3)** Special topics not included in other courses. *May be repeated for credit with change of topic.*

**ENGL 3051. Topics in English - Writing Intensive. (3)** Special topics not included in other courses. *May be repeated for credit with change of topic.*

**ENGL 3053. Topics in English - Writing Intensive and Oral Communication. (3)** Offers topics of general interest not included in other courses. *May be repeated for credit with permission of department.*

**ENGL 3072. Topics in Literature and Film. (3)** Selected topics in literature and/or film. *May be repeated for credit with change of topic.*

**ENGL 3074. Topics in Children's Literature, Media, and Culture. (3)** Study of children's literature as it relates to other media for young people, including film, television, digital narratives, games, and/or comics. *May be repeated with change of topic.*

**ENGL 3081. Topics in Author, Pop Culture, and Genre Studies. (3)** Selected topics in author, pop culture, and genre studies. *May be repeated with change of topic.*

**ENGL 3082. Topics in Film, Performance, and Print & Digital Culture. (3)** Selected topics in film, performance, and print and digital culture. *May be repeated for credit with change of topic.*

**ENGL 3083. Topics in Genders, Sexualities, and Literature. (3)** Selected topics in genders, sexualities, and literature. *May be repeated for credit with change of topic.*

**ENGL 3084. Topics in Global Cultures, Identities, and Diverse Literatures. (3)** Selected topics in global cultures, identities, and diverse literatures. *May be repeated for credit with change of topic.*

**ENGL 3085. Topics in Literature, Science, and the Environment. (3)** Selected topics in literature, science, and the environment. *May be repeated for credit with change of topic.*

**ENGL 3100. Approaches to Literature and Culture. (3)** Introductory study and application of major critical approaches to literature, such as formalism, race studies, new historicism, gender and sexuality studies, postcolonialism, ecocriticism, class studies, and poststructuralism, with an emphasis on diverse perspectives and on writing about literature.

**ENGL 3102. Literature for Young Children. (3)** Critical study of literature for children under the age of eight, covering such topics as picture books, nursery rhymes, and books for beginning readers.

**ENGL 3103. Children's Literature. (3)** Critical study of various genres of children's literature, such as realistic fiction, fantasy, and picture books.

**ENGL 3104. Literature for Adolescents. (3)** Critical study of literature intended for adolescent and pre-adolescent readers, as well as texts that deal with coming-of-age themes.

**ENGL 3125. Introduction to U.S. Latinx Literature. (3)** Cross-listed Course(s): LTAM 3003, LTAM 3325. Examines contemporary and recent literatures written in English in the U.S. by Latinx writers, and is designed to introduce students to the variety of texts and contexts which shape contemporary U.S. Latinx literary experiences.

**ENGL 3132. Introduction to Contemporary American English. (3)** Introduction to the study of word formation, the sound system, and the structure of contemporary American English, including characteristics and applications of traditional grammar.

**ENGL 3158. Gender and African American Literature. (3)** Exploration of the intersection of gender and African American literature, focusing on either Black women writers or Black male writers, or a combination in dialogue.

**ENGL 3159. African American Poetry. (3)** Cross-listed Course(s): AFRS 3159. Intensive study of African American poetry, focusing on one period or traversing several.

**ENGL 3162. Language and the Virtual World. (3)** Explores the various ways in which language is used in cyberspace, and how those practices are re-shaping our daily lives and our cultural expectations.

**ENGL 3180. Language and Digital Technology. (3)** Rhetorical, psychological, and anthropological theories that underscore the interrelations of written, graphic, and digital communication within technical, rhetorical contexts.

**ENGL 3190. Teaching Academic English to Adolescent Learners. (3)** An overview of the theories, approaches, and challenges of teaching academic English in secondary school language arts settings.

**ENGL 3201. Intermediate Poetry Writing. (3)** Prerequisite(s): ENGL 2126, ENGL 2127, ENGL 2128, or permission of instructor. Students continue to build their knowledge and skills in the art and craft of poetry writing. Combines reading and discussion of published contemporary poetry with the writing of original creative works.

**ENGL 3202. Intermediate Fiction Writing. (3)** Prerequisite(s): ENGL 2126, ENGL 2127, ENGL 2128, or permission of instructor. Students continue to build their knowledge and skills in the art and craft of fiction writing. Combines reading and discussion of published contemporary fiction with the writing of original creative works.

**ENGL 3203. Intermediate Creative Nonfiction Writing. (3)** Prerequisite(s): ENGL 2126, OR ENGL 2127, OR ENGL 2128, OR permission of instructor. Students continue to build their knowledge and skills in the art and craft of creative nonfiction writing. Combines reading and discussion of published creative nonfiction with the writing of original creative works.

**ENGL 3211. Medieval Literature. (3)** Representative British literary texts (poetry, prose, and/or drama) that embody the cultural and literary developments of the Medieval era.

**ENGL 3212. British Renaissance Literature. (3)** Representative British literary texts (poetry, prose, and/or drama) that embody the cultural and literary developments of the 16th and/or 17th centuries.

**ENGL 3213. British Literature of the Restoration and 18th Century. (3)** Representative British literary texts (poetry, prose, and/or drama) that embody the cultural and literary developments of the Restoration and/or 18th century.

**ENGL 3214. Romantic British Literature, 1785-1832. (3)** Literature from the Romantic period, with emphasis on the works of specific writers, which may include works by men and women writers such as Wordsworth, Blake, Coleridge, Wollstonecraft, Austen, and Smith.

**ENGL 3215. British Victorian Literature. (3)** Representative British literary texts (poetry, prose, and/or drama) that embody the cultural and literary developments of the Victorian era.

**ENGL 3216. British Literature in Transition, 1870-1914. (3)** Representative British literary texts (poetry, prose, and/or drama) that embody the cultural and literary developments of the period 1870-1914.

**ENGL 3217. Modern British Literature. (3)** Representative British literary texts (poetry, prose, and/or drama) that embody the cultural and literary developments of the 20th and 21st centuries.

**ENGL 3231. Early African American Literature. (3)** Exploration of the major periods, texts, and issues in African American literature from its origins to the Harlem Renaissance.

**ENGL 3233. American Literature of the Romantic Period. (3)** Important writers and ideas of the period of American romanticism, from Irving through Whitman, including such authors as Poe, Emerson, Thoreau, Hawthorne, and Melville.

**ENGL 3234. American Literature of the Realist and Naturalist Periods. (3)** Important writers and ideas of American literature, from

Whitman through the period of World War I, including such authors as Dickinson, Twain, Howells, James, Crane, Dreiser, and Frost.

**ENGL 3235. Modern American Literature. (3)** Representative American literary texts (poetry, prose, and/or drama) that embody the cultural and literary developments of the 20th and 21st centuries.

**ENGL 3236. African American Literature, Harlem Renaissance to Present. (3)** Exploration of the major periods, texts, and issues in African American literature from the Harlem Renaissance to the present.

**ENGL 3237. Modern and Recent U.S. Multiethnic Literature. (3)** Representative U.S. multiethnic texts (poetry and/or prose) exemplifying the literary and cultural developments of the 20th and 21st centuries.

**ENGL 3852. Independent Study. (1 to 3)** Prerequisite(s): Permission of department. Individual investigations and appropriate exposition of the results. (Unless special permission is granted by the department chair, no more than six hours of ENGL 3852 may apply toward the English major.)

**ENGL 4002. Women and Literature. (3)** Selected topics focusing on women and literature, such as images of women, women as writers, and women as literary critics. *May be repeated for credit with change of topic and permission of department (however, only six hours may be used for the requirements for the English major).*

**ENGL 4008. Topics in Advanced Technical Communication. (3)** Prerequisite(s): ENGL 2116 and COMM 1101. Exploration, both theoretically and practically, of the interrelation of written, oral, graphic, and digital communication within technical rhetorical contexts. *May be repeated for credit one time with permission of department.*

**ENGL 4050. Topics in English. (3)** Special topics not included in other courses. *May be repeated for credit with change of topic.*

**ENGL 4051. Topics in English - Writing Intensive. (3)** Special topics not included in other courses. *May be repeated for credit with change of topic.*

**ENGL 4072. Topics in Literature and Film. (3)** Cross-listed Course(s): ENGL 5072. Selected topics in literature and/or film. *May be repeated for credit with change of topic.*

**ENGL 4074. Topics in Children's/YA Literature, Culture, and/or Media. (3)** Cross-listed Course(s): ENGL 5074. Study of works for children and/or young adults such as literature and/or other media, including film, television, digital narratives, games, and/or comics. *May be repeated for credit with change of topic.*

**ENGL 4077. Topics in Rhetoric and Composition. (3)**.
Cross-listed Course(s): ENGL 5077. Selected topics in rhetoric and composition. *May be repeated for credit with change of topic.*

**ENGL 4078. Special Topics in Poetry Writing. (3)** Prerequisite(s): ENGL 2126, OR ENGL 2127, OR ENGL 3201, OR permission of instructor. Cross-listed Course(s): ENGL 5078. Designed for advanced writers of poetry to further develop their skills, styles, and aesthetics. Intensive study of select areas of form or genre with continued practice in the writing of poetry.

**ENGL 4079. Special Topics in Fiction Writing. (3)** Prerequisite(s): ENGL 2126, OR ENGL 2128, OR ENGL 3202, OR permission of instructor. Cross-listed Course(s): ENGL 5079. Designed for advanced writers of fiction to further develop their skills, styles, and aesthetics. Intensive study of select areas of form or genre with continued practice in the writing of fiction.

**ENGL 4081. Topics in Author, Pop Culture, and Genre Studies. (3)** Selected topics in author, pop culture, and genre studies. *May be repeated with change of topic.*

**ENGL 4082. Topics in Film, Performance, and Print & Digital Culture. (3)** Selected topics in film, performance, and print and digital culture. *May be repeated for credit with change of topic.*

**ENGL 4083. Topics in Genders, Sexualities, and Literature. (3)** Selected topics in genders, sexualities, and literature. *May be repeated for credit with change of topic.*

**ENGL 4084. Topics in Global Cultures, Identities, and Diverse Literatures. (3)** Selected topics in global cultures, identities, and diverse literatures. *May be repeated for credit with change of topic.*

**ENGL 4085. Topics in Literature, Science, and the Environment. (3)** Selected topics in literature, science, and the environment. *May be repeated for credit with change of topic.*

**ENGL 4102. British Children's Literature. (3)** Focuses on works in British and British Colonial Children's literature. *May be repeated for credit with change of topic.*

**ENGL 4103. American Children's Literature. (3)** Focuses on works in American Children's literature. *May be repeated for credit with change of topic.*

**ENGL 4104. Multiculturalism and Children's Literature. (3)** Focuses on works that represent one or more kinds of cultural, ethnic, or social diversity of the United States and other national literatures. *May be repeated for credit with change of topic.*

**ENGL 4111. Ancient World Literature. (3)** Readings of ancient world literature, in English translation.

**ENGL 4112. Modern World Literature. (3)** Readings in modern world literature, in English and in English translation.

**ENGL 4116. Shakespeare's Early Plays. (3)** A study of 10 representative plays from the comedies, histories, and tragedies written 1590-1600.

**ENGL 4117. Shakespeare's Late Plays. (3)** A study of 10 representative plays from the period 1600-1611, including the late tragedies and tragi-comedies.

**ENGL 4120. Romantic British Literature, 1785-1832. (3)** Literature from the Romantic period, with emphasis on the works of specific writers, which may include works by men and women writers such as Wordsworth, Blake, Coleridge, Wollstonecraft, Austen, and Smith.

**ENGL 4132. British Drama to 1642. (3)** Cross-listed Course(s): ENGL 5132. A survey of late-medieval and Renaissance drama in England.

**ENGL 4141. American Literature of the Realist and Naturalist Periods. (3)** Important writers and ideas of American literature, from Whitman through the period of World War I, including such authors as Dickinson, Twain, Howells, James, Crane, Dreiser, Frost.

**ENGL 4145. Literature of the American South. (3)** Selected works of Southern writers that reflect literary and cultural concerns from Colonial times to the present, including such authors as Poe, the early humorists, local color writers, Chopin, Faulkner, Warren, O'Connor, Welty.

**ENGL 4151. Drama. (3)** Cross-listed Course(s): ENGL 5151. Drama written in English, focusing on a particular period, nationality, or topic. *May be repeated for credit one time with permission of department.*

**ENGL 4160. Origins of Language. (3)** Study of linguistic theories of how and when human language developed, with attention to parallel work in anthropology, archeology, and psychology.

**ENGL 4161. Modern English Grammar. (3)** A study of the structure of contemporary English, with an emphasis on descriptive approaches.

**ENGL 4165. Multiculturalism and Language. (3)** Readings in and discussion and application of the interrelationships between language and culture, including basic introduction to contemporary American dialects and to social contexts of language.

**ENGL 4167. The Mind and Language. (3)** Introduction to the study of the mind from a linguistic perspective. Topics include: language growth and loss, language deficits, modularity and hierarchical processing, the interaction of cognitive and linguistic faculties, parsing/processing strategies and limitations, and applications such as therapy, forensics, computing, teaching.

**ENGL 4168. Multimodality and Text Description. (3)** Explores how different modes of communication interact and are integrated in adapted, new or emergent digital discourses and genres. Multimodal analysis includes the analysis of communication in all its forms, but is particularly concerned with texts in which two or more semiotic resources–or 'modes' of communication–are integrated and combined. Such resources include aspects of speech such as intonation and other vocal characteristics, gesture (face, hand, and body) and proxemics, as well as products of human technology such as carving, painting, writing, architecture, image, sound recording, and interactive computing resources.

**ENGL 4181. Writing and Designing User Documents. (3)** Researching and analyzing audiences to write publishable instructions. Includes the production, testing, and revision of tutorials, reference manuals, on-line documents, and digital media for users of computers and other technologies.

**ENGL 4182. Information Design and Digital Publishing. (3)** Prerequisite(s): ENGL 2116. Cross-listed Course(s): HCAI 3112. Theoretical and practical exploration of visual communication. By rhetorically integrating text and graphics, students write and publish documents and online content for digital environments.

**ENGL 4183. Editing with Digital Technologies. (3)** Prerequisite(s): ENGL 2116. Substantive editing, copyediting, project management, and editing in hardcopy documents and web and digital environments.

**ENGL 4200. Teaching of Writing. (3)** Cross-listed Course(s): ENGL 5200. Introduction to various theories that inform practices in the teaching of writing and methods of teaching writing to middle and secondary learners.

**ENGL 4201. Teaching of Multiethnic Literature. (3)** An overview of the issues, opportunities, and challenges of teaching multiethnic literature in middle and secondary school settings.

**ENGL 4202. Advanced Poetry Writing. (3)** Prerequisite(s): ENGL 2126, ENGL 2127, ENGL 3201, or permission of instructor. Cross-listed Course(s): ENGL 5202. Designed for advanced writers of poetry to further develop their skills, styles, and aesthetics. Combines reading and discussion of published contemporary poetry with the writing of original creative works.

**ENGL 4203. Advanced Fiction Writing. (3)** Cross-listed Course(s): ENGL 5203. Prerequisite(s): ENGL 2126, ENGL 2128, ENGL 3202, or permission of instructor. Designed for advanced writers of fiction to further develop their skills, styles, and aesthetics. Combines reading and discussion of published contemporary fiction with the writing of original creative works.

**ENGL 4204. Expository Writing. (3)** Writing of essays, criticism, and various forms of exposition.

**ENGL 4206. Advanced Creative Nonfiction Writing. (3)** Cross-listed Course(s): ENGL 5206. Prerequisite(s): ENGL 2126, ENGL 2127, ENGL 2128, ENGL 3203, or permission of instructor. Designed for advanced writers of creative nonfiction to further develop their skills, styles, and aesthetics. Combines the reading and discussion of published contemporary creative nonfiction with the writing of original creative works.

**ENGL 4207. Writing Young Adult Fiction. (3)** Prerequisite(s): English major or minor; and either ENGL 2126, ENGL 2127, ENGL 2128, ENGL 3103, or ENGL 3104, or permission of instructor. Cross-listed Course(s): ENGL 5207. Today, the young adult (YA) novel is often a beautifully crafted work of literary fiction open to a variety of experimental approaches. This course serves those who already write, or would like to try writing, YA fiction. It explores aspects of reading and writing young adult fiction, including developing a narrative point of view, trajectory and conflict, creating complex characters, and issues of voice and style. *May be repeated for credit with change of topic.*

**ENGL 4235. History of the Book. (3)** Cross-listed Course(s): ENGL 5235. Explorations of the development, technologies, cultures, and impact of the book and print media.

**ENGL 4254. Teaching English/Communication Skills to Middle and Secondary School Learners. (3)** Cross-listed Course(s): ENGL 5254. Prerequisite(s): Senior standing; and English major with a Secondary Education minor, Middle Grades Education major, or permission of department. Pre- or Corequisite(s): MDSK 3100; MDSK 3151; MDSK 4210; and MDLG 3130 or SECD 4140. Corequisite(s): MDSK 4100L. Approaches

to the teaching of English, including recent theories and research related to writing and literary study, with special attention to technology. Designed primarily for teaching in grades 6-12.

**ENGL 4260. History of Global Englishes. (3)** Cross-listed Course(s): ENGL 5260. Origins and development of the English language, both spoken and written, from its earliest forms to contemporary usage.

**ENGL 4262. Language and Diversity. (3)** Examination of contemporary American varieties of English by region, gender, ethnic identity, socio-economic status, age, social networks, and other cultural groupings.

**ENGL 4267. Language and Culture in Digital Spaces. (3)** Explores how humans make cyberspace into social and cultural spaces through diverse language practices. Considers how technology use shapes and is shaped in social interaction and how identities, relationships, and discourses develop through digitally-mediated language use.

**ENGL 4270. Studies in Writing, Rhetoric, and Literacy. (3)** Cross-listed Course(s): ENGL 5270. Studies of writing, rhetoric, and literacy with an emphasis on historical and cultural contexts.

**ENGL 4271. Studies in Writing, Rhetoric, and New Media. (3)** Cross-listed Course(s): ENGL 5271. Studies of writing, rhetoric, and new media and digital technologies with an emphasis on historical and cultural contexts.

**ENGL 4272. Studies in the Politics of Language and Writing. (3)** Explores language and writing as sites of political contestation in local, national, and global contexts. Examines theoretical debates and effects of politics and history on language and learning.

**ENGL 4273. Studies in Writing, Rhetoric, and Identity. (3)** Explores how identities are performed in textual and digital media.

**ENGL 4274. Visual Rhetoric. (3)** Cross-listed Course(s): ENGL 5274. Theory and practice of crafting rhetorical arguments in print and electronic media that depend upon visual exhibits, such as drawings, photographs, tables, graphs, icons, and videos.

**ENGL 4275. Rhetoric and Technology. (3)** Cross-listed Course(s): ENGL 5275. Research and theories of the rhetorical construction of technology in history and culture.

**ENGL 4277. Digital Literacies. (3)** Cross-listed Course(s): ENGL 5277. Exploration of the intersections between evolving digital literacies and traditional school-based literacies.

**ENGL 4290. Advanced Creative Project. (3)** Prerequisite(s): English major or minor; and ENGL 4202, ENGL 4203, ENGL 4078, ENGL 4209, or permission of instructor. Focuses on the planning of a book-length work of creative writing through independent study and scholarly engagement in related areas of contemporary literature and writing, leading to the development of book proposals, abstracts, discussions of creative works, and oral presentations by students and authors.

**ENGL 4325. Trauma and Memory in Contemporary American Literature. (3)** Cross-listed Course(s): ENGL 5325. Examination of selected works that explore national experiences of trauma in the U.S.

**ENGL 4400. Research, Theory, and Practice of Tutoring Writing. (3)** Cross-listed Course(s): WRDS 4402 and ENGL 5400. Prerequisite(s): Interview and permission of WRC Director and/or Assistant Director. A practicum which educates student peer tutors to assist writers in UNC Charlotte's Writing Resources Center (WRC). All writing consultants are required to complete this course, which provides an introduction to writing center research, theory, and practice. Coursework explores the history, contexts, and research-based principles of writing centers; the social, collaborative nature of learning; strategies of one-with-one writing instruction; threshold concepts in Writing Studies; composition theory; and current issues in writing pedagogy, such as linguistic justice and accessibility. Significant attention is given to research-based practices for supporting multilingual writers. In addition to completing coursework, students tutor in the WRC for three hours per week. Because this course includes a practicum in the WRC, enrollment is by permission only, following a successful interview with the Director and/or Associate Director of the WRC.

**ENGL 4410. Professional Internship. (3 or 6)** Prerequisite(s): Permission of English Internship Coordinator; Junior or Senior status; English major or minor, or Minor in Technical/Professional Writing; 2.5 GPA or above; and taken a course in professional communication (e.g., journalism, technical communication, public relations, public relations lab, or mass media). Students independently secure an internship approved by the Internship Coordinator, working either 8–10 hours per week for 3 credit hours or 16–20 hours per week for 6 credit hours. Of these, only 3 credit hours may be applied toward the English major; an additional 3 credit hours may count as a University elective. *May be repeated for credit one time.*

**ENGL 4750. English Honors Seminar. (3)** Prerequisite(s): Admission into English Honors Program or permission of instructor. In-depth study of a selected topic in English Studies. Topics and course content vary according to the interests and expertise of the faculty.

**ENGL 4751. English Honors Thesis Seminar. (3)** Prerequisite(s): Admission into English Honors Program and permission of instructor. In-depth study of a selected topic in English Studies. Topics and course content vary according to the interests and expertise of the faculty. During the course of the semester, students produce a thesis proposal and capstone thesis project.

**ENGL 4752. English Honors Thesis. (3)** Prerequisite(s): Admission into English Honors Program and permission of instructor. Honors proposal and capstone project completed as part of either ENGL 4750 or an ENGL 4000-5000 level course.

**ENGL 4852. Independent Study. (1 to 3)** Prerequisite(s): Permission of department. Individual investigations and appropriate exposition of the results. (Unless special permission is granted by the department chair, no more than six hours may apply toward the English major.) *May be repeated for credit with permission of department.*

# Engineering (ENGR)

**ENGR 0200. Engineering FIT Program. (1)** Prerequisite(s): Be registered for the Engineering FIT program. The Engineering FIT course is designed to provide incoming first-year engineering students with the essential mathematical practices required as a strong foundation for their

upcoming engineering courses. This course aims to enhance mathematical skills while offering support during the transition from high school to university life. Students will explore the practical applications of mathematics in engineering, emphasizing its significance in making a positive impact on society.

**ENGR 0600. Engineering Freshman Learning Community Seminar. (0)** Required for all residents of the Freshman Learning Community (FLC). The FLC has three goals: build community with students, faculty, and engineering professionals; learn about the engineering disciplines; and learn how to be a successful engineering student. The seminar offers workshops, site visits, and other activities. *May be repeated for credit. Graded on a Pass/No Credit basis.*

**ENGR 1100. Engineering Pathways. (1)** Prerequisite(s): College of Engineering student. Assists students in exploring the engineering disciplines offered at UNC Charlotte, learning about career opportunities, and performing a critical analysis of their career goals. Academic and professional skills required to be successful in the College of Engineering are introduced. Students are exposed to campus resources, college culture, and student and professional organizations.

**ENGR 1101. First-Year Engineering Track to Success. (3)** Prerequisite(s): Must be a participant in Engineering Track to Success Program. This course focuses on developing successful learning behaviors and major exploration. It is designed to assist with the intellectual and social transition from high school to college by increasing the involvement of students in the intellectual life of the campus; providing an orientation to resources available to students; and promoting problem solving and writing skills. *May not be repeated for grade replacement.*

**ENGR 1102. Engineering Pathways II. (1)** Prerequisite(s): ENGR 1101. Designed to assist students to continue an in-depth exploration of careers in the engineering field. A focus on critical thinking used to make engineering decisions and solve problems is discussed and practiced. Students are exposed to emerging fields in the engineering profession. This course is designed for first year engineering students.

**ENGR 1110. Academic and Professional Skills. (1)** The course will use profiles of engineering, technology, science, and business professionals to give students an opportunity to identify with, evaluate, and discuss roles and opportunities in professional STEM environments. The course promotes soft skills like planning, goal- setting, communication and teamwork; with a particular emphasis on applications used in the engineering, engineering technology, construction management and other STEM majors.

**ENGR 1201. Introduction to Engineering Practices and Principles I. (2)** Prerequisite(s): College of Engineering major; Register for MATH 1241 or higher; place in MATH level 4. An introduction to the different disciplines within engineering; the college's computing system; academic, personal and professional development; teamwork; project planning; engineering design; engineering calculations; and oral and written communication skills within a multi-disciplinary format.

**ENGR 1202. Introduction to Engineering Practices and Principles II. (2)** Prerequisite(s): ENGR 1201 and MATH 1241 with grades of C or above; and Engineering major or minor. Corequisite(s): ENGR 1201 with permission of department. Applications in the disciplines of Civil, Computer, Electrical, Mechanical, and Systems Engineering using tools and techniques specific to the major and discipline. Emphasis is on analytical and problem-solving skills and understanding of the profession/curriculum. Each course section is restricted to a specific engineering major discipline.

**ENGR 1300. Exploring Engineering & Technology with Success. (2)** Prerequisite(s): Admission to the College of Engineering. This course will welcome students with a diverse cross-section of backgrounds into the engineering college/profession with a variety of hands-on experiences that informs them of the different engineering careers/disciplines and offers them an opportunity to apply the engineering design process to meaningful, real-world projects. Students will further develop learning efficacy while discovering their passion and finding meaningful connections in the engineering community. With a grade of C or above.

**ENGR 1301. Foundations of Math and Science for Engineering. (3)** Prerequisite(s): Admission to the College of Engineering. A study of foundational math and science, including vectors, vector algebra, units, Newton's laws, atomic structure, properties of matter, quantum mechanics, ideal gas law, chemical bonding, etc. Course consists of both lectures and breakout practice/lab sessions. With a grade of C or above.

**ENGR 1302. Logic and Computational Problem Solving. (3)** Prerequisite(s): Admission to the College of Engineering. An immersive project-oriented course where students explore real-world engineering problems, develop methodologies for solving problems logically and with computational tools, and validate solutions. A modern programming language is introduced. With a grade of C or above.

**ENGR 1303. Engineering Visualization and Graphical Communication. (3)** Prerequisite(s): Admission to the College of Engineering. This course enables students to develop foundational knowledge and skills for visualizing and communicating complex three-dimensional designs and data sets. Through hands-on and practical applications, students learn techniques and tools to create visual spatial representations and conduct data analysis that aids in decision-making. Online 2D and 3D applications will be used, as well as spreadsheets and mathematical analysis software. With a grade of C or above.

**ENGR 2800. College of Engineering Ambassadors' Leadership Development. (1 to 3)** Prerequisite(s): College of Engineering major and GPA greater than 2.5; Participation is through a competitive selection process. Course activities involve participating in training sessions and monthly meetings with the Outreach and Recruitment Committee; conducting engineering lab tours, workshops and presentations; leading and participating in college sponsored STEM activities; and supporting K-12 and community college recruitment events and the Dean and Chairs functions as needed. Students will translate and analyze how these communication and networking strategies can be utilized in their own professional development in their transition to leadership roles as early career professionals. *May be repeated for credit for up to 9 credit hours.*

**ENGR 3095. Leadership Academy. (0)** Prerequisite(s): Admittance into the Leadership Academy program and Engineering major or minor. Participants will learn to apply leadership, teamwork, ethical decision-making, communication, and strategic planning principles learned through Leadership Academy modules to a community-based service learning project. Implementation and evaluation of projects are approved

by Leadership Academy staff and advisory board members. *Graded on a Satisfactory/Unsatisfactory basis. May be repeated for credit.*

**ENGR 3210. Senior Design Laboratory I. (0)** and Prerequisite(s): Engineering major or minor. Corequisite(s): Senior Design I. Laboratory experience to facilitate team interaction and mentor instruction in the multidisciplinary capstone experience. *May be repeated.*

**ENGR 3220. Senior Design Laboratory II. (0)** Prerequisite(s): Engineering major or minor. Corequisite(s): Senior Design II. Continuation of Senior Design I Laboratory to facilitate team interaction and mentor instruction in the multidisciplinary capstone experience. *May be repeated.*

**ENGR 3295. Multidisciplinary Professional Development. (1)** Prerequisite(s): Junior or Senior standing per departmental requirements; and Engineering major or minor. A series of multidisciplinary and disciplinary seminars and activities designed to introduce students to basic concepts of professionalism in engineering. Topics include: global, societal, and contemporary issues of current interest such as leadership, entrepreneurship, ethics, and professional licensure. Each course section is restricted to a specific engineering major discipline. Sections may be cross-listed with more than one engineering major discipline.

**ENGR 3500. Engineering Cooperative Education Experience. (0)** Prerequisite(s): Engineering major or minor. This course is required of Co-op students during the semester they are working. Participating students pay a course registration fee for transcript notation. Assignments must be arranged and approved in advance. The Cooperative Education Program is only open to undergraduate students; graduate level students are encouraged to contact their academic departments to inquire about academic or industrial internship options for credit. For more information, contact the University Career Center. *May be repeated. Graded on a Satisfactory/Unsatisfactory basis.*

**ENGR 3790. Engineering Honors Seminar I. (1)** Prerequisite(s): Engineering major or minor. Pre- or Corequisite(s): ECGR 3253, ECGR 4241, ECGR 4251, ETGR 4100, MEGR 3255, MEGR 3275, MEGR 3355, MEGR 3455, SEGR 3290, or permission of instructor. Seminar focuses on development of a proposal for the Honors Senior Design II course. The proposal is submitted through Application to Candidacy process for approval by the Honors College. Seminar includes presentations associated with preparing for the Engineering Honors Seminar II course. *Graded on a Pass/No Credit basis.*

**ENGR 3791. Engineering Honors Seminar II. (1)** Prerequisite(s): ENGR 3790, Engineering major or minor, and approval of a proposal through the Honors College Application to Candidacy process the semester prior to taking the course. Pre- or Corequisite(s): CEGR 3201, CMET 4272, ECGR 3254, ECGR 4242, ECGR 4252, ETCE 4272, ETGR 4200, MEGR 3256, MEGR 3276, MEGR 3356, MEGR 3456, SEGR 3291, or permission of the instructor. Students prepare and present a portfolio showing the impact of the Senior Design process on their preparation for a professional career in engineering.

**ENGR 4090. Special Topics. (1 to 4)** Prerequisite(s): Engineering major or minor. Directed study of current topics of special interest. *May be repeated for credit.*

# Environmental Engineering (ENVE)

**ENVE 3111. Construction Engineering. (2)** Prerequisite(s): CEGR 3141 with a grade of C or above. Environmental Engineering majors only. The principles and techniques of engineering construction projects from the conceptual phase, through design and construction, to completion and close-out are presented. Students develop the analytical skills and awareness necessary on the design engineering side of construction projects. Topics include: project initiation, estimating, budgeting, allocation of resources, temporary erosion control, and the application of codes, standards, and regulations.

**ENVE 3145. Hydraulics Engineering Lab. (1)** Prerequisite(s): Civil Engineering or Environmental Engineering major. Pre- or Corequisite(s): CEGR 4146. Laboratory problems in hydrology and hydraulics. Emphasis on analysis and presentation of results as well as on the significance of results as they affect theory and/or practice. Three hours of laboratory per week.

**ENVE 3201. Environmental Systems and Design. (2)** Prerequisite(s): Instructor/Department approval. Systems engineering techniques applied to environmental engineering problems emphasizing methodological considerations, evaluating alternatives and developing engineering plans carried out by small groups of students.

**ENVE 3202. Environmental Systems and Design. (3)** Prerequisite(s): Environmental Engineering majors and permission of the instructor. Systems engineering techniques applied to environmental engineering problems emphasizing methodological considerations, evaluating alternatives and developing engineering plans carried out by small groups of students.

# Earth Sciences (ESCI)

**ESCI 1101. Earth Sciences-Geography. (3)** Basic geographical principles and processes in physical geography and the earth sciences: geographic locational methods, earth-sun relationships, earth radiation balance, atmospheric temperature and pressure, interpretation and simple forecasting of weather from mapped data, interpretation of soil-moisture and evapotranspiration balances, soil, climate systems, and biomes.

**ESCI 1101L. Earth Sciences-Geography Laboratory. (1)** Pre- or Corequisite(s): ESCI 1101. Experimental study and investigation of the basic principles and processes in physical geography and the earth sciences; geographic locational methods, earth-sun relationships, earth radiation balance, atmospheric temperature and pressure, interpretation and simple forecasting of weather from mapped data, interpretation of soil-moisture and evapotranspiration balances, soil, climate systems and biomes. One laboratory period of two hours per week.

*Note: Although the laboratory and lecture sections of ESCI 1101 are taught as separate courses, it is strongly recommended that students take ESCI 1101L concurrently with ESCI 1101. Students with scheduling problems or students not fulfilling the University science and technology requirements may take the lecture without the laboratory. Students fulfilling the University science and technology requirements must*

*either: (a) Take ESCI 1101 and ESCI 1101L concurrently; or (b) Take ESCI 1101L in a semester subsequent to taking ESCI 1101.*

**ESCI 1501. Global Social Science: Environment, Society, and Sustainability. (3)** This Global Theme course uses the methods and insights of the social sciences to explore the central question of what it means to be a citizen of the world. Through the study of one or more different peoples, societies or cultures across the globe, students will be able to better understand themselves as part of a complex, interconnected world. ESCI 1501 is an introduction to the complex interactions between human systems and global environmental systems, focusing on social science approaches to human imprints on the earth, environmental worldviews and histories, and the role of science in policy and social change cycles as we examine diverse global environmental issues.

**ESCI 2000. Topics in Earth Sciences. (1 to 4)** Treatment of major topical issues in Earth Sciences. *May be repeated for credit with change of topic.*

**ESCI 2101. The Environmental Dilemma. (3)** Nature, causes, and responses to major environmental problems.

**ESCI 2210. Field Methods in the Earth and Environmental Sciences. (3)** Prerequisite(s): ESCI 1101, ESCI 1101L, GEOL 1200, and GEOL 1200L; or permission of instructor. Field techniques used in studies of earth and environmental sciences. Skills related to the collection and presentation of scientific data emphasized. Earth Sciences majors should take ESCI 2210 as soon as possible after completion of ESCI 1101, ESCI 1101L, GEOL 1200, and GEOL 1200L.

**ESCI 2222. Environmental Science. (3)** Prerequisite(s): ESCI 1101 and ESCI 1501. An interdisciplinary study of how humans interact with the living and nonliving parts of their environment. Students integrate knowledge and concepts from the natural sciences with similar ideas from the social sciences. Environmental Science has three primary goals: 1) to understand how life on Earth has survived and thrived, 2) to understand how humans interact with the environment, and 3) to find ways to deal with environmental problems.

**ESCI 3000. Selected Topics in Earth Sciences. (1 to 4)** Prerequisite(s): ESCI 1101 and ESCI 1101L or GEOL 1200 and GEOL 1200L, and permission of instructor. In-depth treatment of specific topics selected from one of the fields of the earth sciences. *May be repeated for credit with change of topic.*

**ESCI 3101. Global Environmental Change. (3)** Prerequisite(s): ESCI 1101 or METR 1102, or permission of instructor. Fundamental principles of the climate, including the physical processes responsible for global climate change; relationships between past, present, and future changes; and societal and environmental impacts.

**ESCI 3105. Oceanography. (3)** Prerequisite(s): ESCI 1101 and GEOL 1200, or permission of instructor. Physical, chemical and geological aspects of the world's oceans. Emphasis on oceanic exploration techniques, oceanic circulation, seawater chemistry, marine geology, and coastal systems.

**ESCI 3150. Natural Environments of North America. (3)** Prerequisite(s): ESCI 1101 or GEOL 1200, GEOL 1200L. Regional geomorphology and ecology of North America with emphasis on development, maintenance, and interaction of the geomorphic and ecological provinces.

**ESCI 3170. Environmental Quality Management. (3)** Prerequisite(s): ESCI 1101 and ESCI 1101L. Selected methods of air and water resource analysis with emphasis on conceptual models and statistical techniques of environmental and risk assessment.

**ESCI 3180. Environmental Impact Analysis. (3)** Prerequisite(s): Earth Science or Geology major with Junior or Senior standing. Environmental impact requirements and associated procedures, guidelines, and methods of assessing physical environmental impacts. Three hours per week of combined lecture and supervised field work leading to the preparation of an environmental impact statement for a locally proposed action.

**ESCI 3190. Biogeography. (3)** Cross-listed Course(s): GEOG 3190. Prerequisite(s): ESCI 2222 or BIOL 1110. The patterns of life across the Earth and the causes of those patterns, with an emphasis on ecological patterns and historical patterns of biodiversity. The origin of the Earth's biological diversity and methods for conserving that biodiversity is also discussed. Emphasis on student oral and written communication.

**ESCI 3205. Water Resources. (3)** Prerequisite(s): ESCI 2222 or permission of instructor. The distribution of fresh water and its relevance to society and ecosystems. Fundamentals of the science of water, human use and influence on water, and issues of water management, policy, and law.

**ESCI 3220. Air Quality. (3)** Prerequisite(s): ESCI 2222 or ESCI 3101. A survey of how human activities combine with weather and geography to create air pollution problems, how air pollution is monitored and reported, and the national and international policies aimed at improving air quality. Three hours of combined lecture and lab per week.

**ESCI 3310. National Parks: The Science Behind the Scenery. (3)** Prerequisite(s): ESCI 1101 and ESCI 1101L, or GEOL 1200 and GEOL 1200L, or permission of instructor. A discussion of the geological, environmental, and policy aspects of America's national parks, which preserve some of the finest landscapes and scenic beauty in the world. Students learn about the geological processes that created the landscapes in Yellowstone, Yosemite, and the Grand Canyon, as well as many other parks and monuments. The role the parks play as protectors of endangered species, habitats, and undeveloped lands are also discussed.

**ESCI 3500. Earth Sciences Cooperative Education Experience. (0)** Enrollment in this course is required for the department's earth sciences cooperative education students during each semester that they are working. Participating students pay a course registration fee for transcript notation. Assignments must be arranged and approved in advance. The Cooperative Education Program is only open to undergraduate students; graduate level students are encouraged to contact their academic departments to inquire about academic or industrial internship options for credit. For more information, contact the University Career Center. *Course may be repeated. Graded on a Satisfactory/Unsatisfactory basis.*

**ESCI 4000. Selected Topics in Earth Sciences. (1 to 4)** Prerequisite(s): ESCI 1101, ESCI 1101L, GEOL 1200, GEOL 1200L, or permission of instructor. In-depth treatment of specific topics selected from one of the fields of the earth sciences. *May be repeated for credit with change of topic.*

**ESCI 4122. Statistics and Data Analysis in Earth Sciences. (3)** Cross-listed Course(s): ESCI 5122. Prerequisite(s): MATH 3122, MATH 4122, STAT 1220, STAT 1221, STAT 1222, STAT 2122, or STAT 3122. Develop techniques in a programming environment to quantitatively summarize data related to Earth sciences using univariate and bivariate statistical calculations; defend interpretations of Earth science data from both statistical and physical perspectives.

**ESCI 4140. Hydrologic Processes. (4)** Prerequisite(s): ESCI 1101 and ESCI 1101L or GEOL 1200 and GEOL 1200L or METR 1102 and METR 1102L. Atmospheric, soils, and geologic aspects of surface and ground water processes. Three lecture hours and one three-hour lab per week.

**ESCI 4145. Groundwater. (4)** Prerequisite(s): CHEM 1251, CHEM 1251L, (GEOL 3105 or GEOL 3115 or ESCI 3205 or CEGR 3143), or permission of instructor. Physical and chemical groundwater hydrology, study of aquifer solids, and the role of groundwater in environmental sustainability. Water balance, flow, transport, and chemical reactions in aquifers, including groundwater interactions with other parts of the hydrologic cycle. Three hours of lecture and three hours of lab per week, with occasional field trips.

**ESCI 4146. The Business of Ecological Restoration. (3)** Prerequisite(s): ESCI 1101. The science, business, and implementation of ecological restoration projects. Topics include: the basics of stream and wetland regulations, restoration, funding, design, construction, and long-term land conservation.

**ESCI 4155. Fluvial Processes. (4)** Prerequisite(s): ESCI 1101 and ESCI 1101L or GEOL 1200 and GEOL 1200L. Hydrologic and geomorphic study of the transport of water and earth materials within stream systems. Erosion, mass wasting, open channel flow, sediment transport, flooding, stream channel morphology, morphometry of drainage basins, and related topics. Three lecture hours, three lab hours per week.

**ESCI 4160. Contaminant Transport. (3)** Prerequisite(s): GEOL 1200, GEOL 1200L, ESCI 1101, ESCI 1101L, GEOL 4145, or permission of instructor. Development and application of equations describing mass and energy transport in the subsurface environment. Three hours lecture per week.

**ESCI 4170. Fundamentals of Remote Sensing. (4)** Prerequisite(s): ESCI 1101 or METR 1102; and GEOL 1200; or permission of instructor. Introduces the physical fundamentals of remote sensing, provides an overview of airborne and satellite remote sensing systems, and offers a basic instruction in the use and interpretation of remote sensing imagery. Identification, interpretation and mapping of both natural and cultural landscape features are also covered. One 2-1/2 hour lecture and one three-hour lab per week.

**ESCI 4180. Digital Image Processing in Remote Sensing. (4)** Offers both a basic instruction in the use and interpretation of remote sensing data, and advanced remote sensing techniques to help students understand what and how remote sensing can contribute to the information needs in various fields. 2-1/2 lecture hours and 3 lab hours per week.

**ESCI 4190. Contemporary Environmental Issues. (3)** Cross-listed Course(s): GEOG 5190. Prerequisite(s): ESCI 2222; Senior standing. An overview of current environmental issues. Solutions to environmental problems are not always clear-cut; this course focuses on the controversies, debates, and clashing views.

**ESCI 4201. Hydroclimatology. (3)** Cross-listed Course(s): ESCI 5201. Prerequisite(s): ESCI 3101; and Junior or Senior standing. Exploration of the climatic, meteorological, and geographic processes that determine water availability for human use and vegetation growth across Earth's ecosystems. Precipitation in tropical and extratropical weather systems; climate and land-surface factors that drive runoff, evaporation and photosynthesis; effects of long-term climate and CO2 changes.

**ESCI 4210. Soil Science. (4)** Prerequisite(s): GEOL 1200, GEOL 1200L, ESCI 1101, ESCI 1101L, or permission of instructor. Study of soils, soil-forming processes and soil morphology with an emphasis on soils as they relate to geologic landscapes and surficial processes. Students will learn how to describe and interpret soils in the field. Three hours lecture, three hours lab per week with occasional field trips.

**ESCI 4214. Global Ecosystems: Human Dimensions and Environmental Dynamics. (3)** Prerequisite(s): ESCI 1101 or ESCI 1501 or permission of instructor. Cross-listed Course(s): ESCI 5214. This multi-disciplinary course surveys the history and prehistory of human ecological dynamics, drawing on geology, geography, and ecology to understand the interrelationships between global climates, global ecosystems, and their human inhabitants. Topics include: climatic change and its impacts on biological systems, peopling of new landscapes, anthropogenic vegetation change, extinctions, desertification, invasive species interactions, and changes in human subsistence.

**ESCI 4220. Atmospheric Chemistry. (3)** Prerequisite(s): CHEM 1251 with grade of C or above, or permission of instructor. An examination of the chemistry and dynamics of the Earth's atmosphere, including chemical kinetics and the physics guiding the movement of air locally and globally. A special focus is placed on the chemistry and physics of environmental issues including global ozone depletion, the ozone hole, and urban and regional air pollution. Three hours of combined lecture and lab per week.

**ESCI 4222. Watershed Science. (3)** Prerequisite(s): Earth Science Major. Geography students: ESCI 4140 or 4155 or GEOL 4145; Biology Majors and M.S. Biology students: BIOL 4149 and permission of instructor; Civil Engineering Majors and M.S.C.E. students: CEGR 3141 or 5144 and permission of instructor; all others require the permission of instructor. Examinations of the cycling of water and chemical elements in natural and perturbed watersheds with emphasis on linkages between the hydrologic and biogeochemical processes which control runoff water quality. Topics include: runoff processes, evapotranspiration, nutrient export and stream, riparian and hyporheic zone hydrochemical dynamics.

**ESCI 4230. Satellite Observations of Earth and the Atmosphere. (4)** Prerequisite(s): ESCI 1101 or GEOL 1200 or METR 1102, or instructor's approval. Cross-listed Course(s): ESCI 5230. Satellites offer

comprehensive and global observations of the Earth and its atmosphere. This course introduces key concepts in satellite remote sensing and its practical applications across diverse environmental topics, including urban environments, wildfires, agriculture, forestry, geology, hydrology, oceanography, radiation, air quality, precipitation, clouds, and weather systems. In laboratory sessions, students will process and interpret satellite data to analyze and address real-world environmental challenges.

**ESCI 4233. Geoenvironmental Site Characterization. (4)** Prerequisite(s): Earth Sciences, Geology, and M.A. Geography majors: ESCI 4140 or ESCI 4155. Others require permission of instructor. Advanced field-based examination of hydrologic and geologic conditions in the southeastern United States within the context of current state and federal regulatory requirements and site characterization activities currently performed by professional environmental geoscientists. Topics include: hydrologic investigation and water quality characterization, and geological and geophysical site investigations.

**ESCI 4400. Internship in Earth Sciences. (3-6)** Prerequisite(s): Permission of department. Research and/or work experience designed to be a logical extension of a student's academic program. The student must apply to the department for an internship by submitting a proposal which specifies the type of work/research experience preferred and how the internship will complement his or her academic program. The department will attempt to place the selected students in cooperating community organizations to complete specified research or work-related tasks which are based on a contractual arrangement between the student and community organization. The student can receive three to six hours credit, depending on the nature and extent of the internship assignment. *May be repeated for credit with change of topic.*

**ESCI 4600. Earth and Environmental Sciences Professional Seminar. (1)** Prerequisite(s): ESCI 1101, ESCI 1101L, GEOL 1200, GEOL 1200L; Senior standing; Earth Sciences or Geology major; or permission of instructor. Advanced seminar series examining major historical and modern research themes in the Earth and Environmental Sciences. Coursework consists of a series of independent and group oral presentations. *May be repeated for credit with change of topic.*

**ESCI 4800. Individual Study in Earth Sciences. (1 to 4)** Prerequisite(s): Permission of department and credit hours established in advance; and, when taken for honors credit, approval of a proposal through the Honors College Application to Candidacy process the semester prior to taking the course. Tutorial study or special research problems. *May be repeated for credit with change of topic.*

# Civil Engineering Technology (ETCE)

**ETCE 1104. Civil/Construction CAD Applications. (3)** Prerequisite(s): Civil Engineering Technology or Construction Management major, or permission of department. Introduces students to civil and construction applications of AutoCAD Civil 3D and/or other similar civil engineering survey and design oriented CAD applications. Two hours of lecture and three hours of laboratory per week.

**ETCE 1211. Construction Surveying I. (3)** Pre- or Corequisite(s): MATH 1103 or above, and ETCE 1104. Corequisite(s): ETCE 1211L. A field surveying and site planning course covering standards, units, and calibration of equipment, measurement of distance, elevation, angles; analysis of systematic and random errors in the measurement; and plane survey, design and layout of horizontal and vertical curves, direction and traversing, construction layout and control, and global positioning system. Three hours of lecture per week.

**ETCE 1211L. Construction Surveying I Laboratory. (1)** Pre- or Corequisite(s): MATH 1103. Corequisite(s): ETCE 1211. Laboratory supporting ETCE 1211. Three hours of laboratory per week.

**ETCE 1222. Construction Materials. (3)** Study of the behavior and physical properties of basic construction materials. Topics include: mineral aggregates, Portland cement concrete, masonry, wood, asphalt concrete, metals, plastics, and other materials. Three hours of lecture per week.

**ETCE 2112. Construction Surveying and Layout. (3)** Prerequisite(s): ETCE 1104, ETCE 1211, and Engineering major or minor. Corequisite(s): ETCE 2112L. An intermediate surveying and site-planning course covering plane survey, design and layout of horizontal and vertical curves, direction and traversing, design of site plant, control of grading, and global positioning system. Two hours of lecture per week.

**ETCE 2112L. Construction Surveying and Layout Laboratory. (0)** Prerequisite(s): ETCE 1211, ETGR 1103, and Engineering major or minor. Corequisite(s): ETCE 2112. Laboratory supporting ETCE 2112. Three hours of laboratory per week. *Graded on a Pass/No Credit basis.*

**ETCE 2163L. Construction Materials and Structures Lab. (1)** Prerequisite(s): ETCE 1222, ETGR 2101. An introduction to basic techniques to evaluate structural materials commonly used in the civil and construction fields.

**ETCE 2410. Introduction to Environmental Engineering Technology. (3)** Prerequisite(s): MATH 1103 or above and ETGR 2101 with grade of C or above; and Engineering major or minor. An introduction to environmental engineering technology which provides an overview of the environmental field, including laws and regulations, water quality, hydraulic and hydrologic fundamentals, water and wastewater treatment, groundwater contamination, and solid waste management.

**ETCE 3131. Soil Mechanics and Earthwork. (3)** Prerequisite(s): ETGR 2102 or CMET 2175; and Engineering major or minor. Study of soil mechanics for design and construction of foundations and earthwork. Emphasis on practical aspects for foundation design and earthwork construction. Topics include: soil exploration, properties, classification, compaction, consolidation, hydraulic conductivity, shear strength, and introduction to bearing capacity and lateral earth pressure.

**ETCE 3131L. Soil Testing Laboratory. (1)** Pre- or Corequisite(s): ETCE 3131 and Engineering major or minor. Laboratory designed to familiarize the student with the common laboratory soil tests and analysis procedures with emphasis on the significance of the various tests, the testing procedures and the detailed computations. Three laboratory hours per week.

**ETCE 3163. Structural Analysis and Design I. (3)** Prerequisite(s): ETGR 2102 and Engineering major or minor. This course presents basic concepts and principles of structural analysis and design of structural steel, reinforced concrete, masonry products, and timber and engineered wood systems. Emphasis is placed on practical aspects of structural analysis and design to include beams, joists, rafters, columns, trusses, and elementary frames.

**ETCE 3163L. Structures and Materials Laboratory. (1)** Pre- or Corequisite(s): ETCE 3163 and Engineering major or minor. Laboratory designed to evaluate structural materials commonly encountered in the civil and construction environments. Basic beam, truss and frame experiments will be conducted. Standard laboratory and field tests for typical materials such as block, brick, asphalt, concrete, steel and timber will be performed. Three laboratory hours per week.

**ETCE 3242. Hydraulics and Hydrology. (3)** Prerequisite(s): ETGR 2102, ETCE 2410, PHYS 1102, or AAS degree; and Engineering major or minor. A study of the fundamental principles of hydraulics and their application in engineering practice, including the fundamentals of fluid flow through orifices, tubes and pipes, in open channels, and over weirs, pump design, network analysis, and modeling.

**ETCE 3242L. Hydraulics Laboratory. (1)** Pre- or Corequisite(s): ETCE 3242 and Engineering major or minor. Provides an understanding of the apparatus, techniques, and procedures used to measure hydraulic fluid properties and to verify the fundamentals of fluid flow through orifices, tubes and pipes, in open channels, and over weirs. Three laboratory hours per week.

**ETCE 3264. Structural Analysis. (3)** Prerequisite(s): ETGR 2102, ETGR 2272, and Engineering major or minor. Advanced Shear Moment Diagrams. Building Code and Load Distribution. Deflections of structures, analysis of statically indeterminate structures using virtual work, the force, and the displacement methods of analysis. Introduction to matrix methods of structural analysis.

**ETCE 3271. Building Systems. (3)** Prerequisite(s): CMET 2105, CMET 2221, CMET 2135, and Engineering major or minor. Basic theory and practical application of heating, ventilation, air conditioning, plumbing and electrical systems in construction. Study of National Fire and Plumbing Codes.

**ETCE 3271L. Building Systems Laboratory. (1)** Pre- or Corequisite(s): ETCE 3271 and Engineering major or minor. Laboratory exercises demonstrating the basic theory and practical application of heating, ventilation, air conditioning, plumbing and electrical systems in construction. Three laboratory hours per week.

**ETCE 4073. Special Topics - Civil Engineering Technology. (1 to 4)** Prerequisite(s): Senior standing, and Engineering major or minor, and permission of instructor. A study of new and emerging technical topics pertinent to the field of civil engineering technology. *May be repeated for credit.*

**ETCE 4165. Structural Steel Design. (3)** Prerequisite(s): ETCE 3163 or ETCE 3264; and Engineering major or minor. Design of beams and columns, floor framing, tensions and compression members, bolted and welded connections according to AISC specifications.

**ETCE 4251. Highway Design and Construction. (3)** Prerequisite(s): ETCE 1211, ETCE 3131, and Engineering major or minor. Introduction to highway planning, economic considerations, and traffic engineering. Design and construction of modern highways, including grade separations and interchanges.

**ETCE 4266. Reinforced Concrete Design. (3)** Prerequisite(s): ETCE 3163 or ETCE 3264; and Engineering major or minor. Design of rectangular beams, T-beams, columns, reinforced concrete floor systems, and reinforced concrete footings according to ACI code. Quality control of concrete and structural inspection.

**ETCE 4272. Capstone Project. (3)** Prerequisite(s): Senior standing and Civil Engineering Technology major; or permission of department. Utilization of students' previous coursework to creatively investigate and produce solutions for a comprehensive civil engineering technology project.

**ETCE 4344. Applied Hydrology and Storm Water Management. (3)** Prerequisite(s): ETCE 3242 and Engineering major or minor. Treatment of hydrologic principles, prediction of runoff, design of storm water systems and controls, and the application of best management practices.

**ETCE 4350. Construction Geotechnics and Foundations. (3)** Prerequisite(s): ETCE 3131 and Engineering major or minor. Study of the concepts and fundamental principles of construction geotechnics related to foundation engineering / construction excavations, temporary structures, dewatering and slope stability.

## Electromechanical Engineering Technology (ETEM)

**ETEM 2101. Circuit Fundamentals. (3)** Prerequisite(s): MATH 1103 or higher. In this foundation course students will learn the principles of DC and AC circuits. Topics of study include basic components, laws, and methods used in circuit analysis. Concepts of DC and AC voltage, current and power will be explored. Students will be instructed on the correct and safe use of equipment and computer tools used in circuits testing and troubleshooting.

**ETEM 2161. Foundations of Mechanics. (3)** Prerequisite(s): ENGR 1301 (with C or better) or AAS degree, PHYS 1101 or PHYS 2101. This course provides essential tools and a pathway to understanding of basic mechanical design principles. Students learn fundamentals of statics, dynamics, and operation of basic mechanisms. Basic properties of materials and their uses in the manufacturing of products are studied.

**ETEM 2171. Algorithms and Programming. (3)** Prerequisite(s): ENGR 1302 (with C or better) or AAS degree. An introduction to the design and implementation of algorithms with a focus on practical problem-solving skills relevant to engineering and science. Students will learn and practice programming techniques that are applicable to contemporary programming languages.

**ETEM 2181. Circuits and Machines in Action. (2)** Prerequisite(s): ENGR 1300 (with C or better) or AAS degree. Pre- or Corequisite(s): ETEM 2101 or ETME 2220, and ETEM 2161. An introductory lab course designed to build a strong foundation in lab safety and hands-on skills. Testing and troubleshooting methodologies are introduced using state-of-the-art equipment. Students build and operate functional circuits and simple machines to explore technologies and their possible applications.

**ETEM 2201. Circuit Analysis. (3)** Prerequisite(s): MATH 1121, ETEM 2101. Knowledge of DC and AC circuit analysis techniques is exercised and expanded. Students learn concepts and uses of transient signals and phasors, passive filters, voltage and current sources, as well as gain an understanding of active and reactive power. Computer-aided circuit simulation software is used throughout the course.

**ETEM 2271. Digital Fundamentals. (3)** Prerequisite(s): Engineering major or minor, or permission of department. A study of logic methodologies relating to digital electronics. Students learn digital signal representation, logic gates, Boolean algebra, code and signal converters, switching methodologies, and fundamental memory structures.

**ETEM 2281. Doing and Making. (3)** Prerequisite(s): ETEM 2171, ETEM 2181. Pre- or Co-requisite Course(s): ETME 2111. Students devise and build working prototype solutions to elementary and intriguing challenges. Participants use basic electrical and mechanical prototyping techniques to construct and test simple electromechanical systems. Projects include the interaction of microcontrollers and peripheral devices such as sensors and actuators.

**ETEM 2291. Practical System Design. (3)** A bridging of electrical and mechanical systems knowledge and practical application. Students learn how to apply basic knowledge of system design under practical constraints and external requirements imposed by standards, codes and safety regulations.

**ETEM 3101. Principles of Control. (3)** Prerequisite(s): ETEM 2101 or ETME 2220. Pre- or Corequisite(s): ETEM 2161 or ETME 2102, MATH 1121 or MATH 1241. Provides students with essential knowledge to characterize and analyze linear time-invariant systems in both time and frequency domains. System modeling methodologies (such as using Laplace Transforms and transfer functions) are applied to electromechanical systems establishing the foundation needed for understanding of control and automation.

**ETEM 3131. Electromechanical Devices. (3)** Prerequisite(s): Engineering major or minor, or permission of department. Participants will examine a variety of sensors and actuators that are central to industrial and automated systems.

**ETEM 3171. Digital Devices. (3)** Prerequisite(s): ETEM 2171, ETEM 2271. Participants will examine and program microcontrollers in preparation for integrating them into complex robotic and automated systems.

**ETEM 3181. Exploring Devices. (1)** Prerequisite(s): ETEM 2181. Pre- or Corequisite(s): ETEM 3131, ETEM 3171. Students interface microcontrollers with a variety of electromechanical devices typical of those used across industry. Development of algorithms is applied to create intelligent embedded systems.

**ETEM 3191. From Concept to Product. (3)** This course provides students with the knowledge and techniques essential to formulate and carry out engineering projects. Participants learn methods used for product development within the scope of the engineering design process. The course will provide tools and methods needed to execute team projects from creative ideas to ready-to-manufacture products.

**ETEM 3231. Power, Machines, and Energy. (3)** Prerequisite(s): ETEM 2101 or ETME 2220. Students will learn the fundamental concepts of power generation, transmission and distribution, including modern and emerging renewable energy sources and storage. Course participants will study motors, energy flow, fluid mechanics, and their applications and practical implementation in commercial processes.

**ETEM 3261. Applied Control Systems. (3)** Prerequisite(s): ETEM 3101. Students will learn techniques of automated control systems. Feedback control, concepts of stability, compensation, gain and phase margins, and state-space description of physical systems are studied. Concepts for designing controllers and optimizing performance of systems are explored. Modern engineering tools, including computer simulation, are used to design, verify, and evaluate stability and performance of these systems.

**ETEM 3271. Digital Signals. (3)** Prerequisite(s): ETEM 3171. Digital signals are important for modern technologies involving high performance data exchange, treatment, and use. In this course, students study and practice methods used in digital signal processing, including sampling and reconstruction, discrete time Fourier and Z transforms, and digital filter design.

**ETEM 3281. More Doing and Making. (3).** Prerequisite(s): ETME 2111 and ETEM 2281 or AAS Degree. Pre- or Corequisite(s): ETEM 3181, ETEM 3261. Students will be challenged to apply project design processes to formulate and build complete solutions to complex electromechanical engineering problems. Students collaborate to integrate components and subsystems according to engineering best practices.

**ETEM 4000. Special Topics in Electromechanical Engineering Technology. (3)** Prerequisite(s): Engineering major or minor, or permission of department. Examination of emerging electromechanical engineering topics and technologies. Coursework builds upon the knowledge the students have gained from their electromechanical engineering technology curriculum. *May be repeated for credit with change of topic.*

**ETEM 4010. Special Topics in Energy. (3)** Prerequisite(s): Engineering major or minor, or permission of department. Examination of emerging energy-related topics and technologies. Coursework builds upon the knowledge the students have gained from their electromechanical engineering technology curriculum. *May be repeated for credit with change of topic.*

**ETEM 4100. Electromechanical Capstone Design I. (2)** Prerequisite(s): ETEM 3191; Electromechanical Engineering Technology major and senior standing. First of a two-semester course sequence in which student teams implement a senior-level design project which demonstrates abilities as developed by the coursework taken thus far. Project planning techniques, teamwork, and communication are utilized to make substantial progress toward implementation of a designed solution.

**ETEM 4131. Intelligent Industrial Systems. (3)** Prerequisite(s): ETEM 3231, ETEM 4161. An overview of intelligent industrial systems using case studies in the fields of energy, transportation, manufacturing, etc. Topics covered include power delivery and protection, fluid mechanics, artificial intelligence, and process monitoring.

**ETEM 4141. Digital Manufacturing Methods. (3)** Prerequisite(s): Engineering major or minor, or permission of department. An exploration of the way in which products are manufactured today. Technologies investigated include additive and subtractive production techniques. Modern methods, materials, and processes are discussed.

**ETEM 4161. Elements of Automation. (3)** Prerequisite(s): Engineering major or minor, or permission of department. Students will explore elements and technologies used in automation such as programmable logic controllers (PLCs), human-machine interfaces (HMIs), and industrial networking using industry-standard equipment. A special focus on troubleshooting and fault detection is demonstrated throughout the course. Students should have the following prerequisites before enrolling: successfully completed a college-level programming course, a basic understanding of memory structures and addressing, successfully completed a college-level circuits course, and prior experience with ladder logic.

**ETEM 4200. Electromechanical Capstone Design II. (2)** Prerequisite(s): ETEM 4100. A continuation of ETEM 4100 consisting of the development and implementation of the designed solution resulting in written reports, oral presentations, a prototype, and appropriate analysis and testing.

**ETEM 4261. Robotics and Cyber-Physical Systems. (3)** Prerequisite(s): ETEM 3181. Pre- or Corequisite(s): ETEM 3261. Study of cyber-physical systems in business and industrial operations. Study of complex systems including the implementation and control of autonomous robots and unmanned vehicles. Study of complex systems, including the implementation and control of autonomous robots and unmanned vehicles.

**ETEM 4600. Technology Seminar. (1)** Prerequisite(s): Engineering major or minor, Senior standing. A forum for conversations and professional knowledge exchange and dissemination. Focus is given to current and emerging applications in the sciences, engineering, and everyday life.

**ETEM 4800. Independent Study. (1 to 4)** Prerequisite(s): Senior standing and Electrical Engineering Technology major, or permission of department. Individual investigation and exposition of results for a directed project in electrical engineering technology. *May be repeated for credit.*

## Fire and Safety Engineering Technology (ETFS)

**ETFS 1120. Introduction to Fire Protection. (3)** An overview of the development, methods, systems and regulations that apply to the fire protection field. Topics include history, evolution, statistics, suppression, organizations, careers, curriculum, and related subjects. Upon completion, students should be able to demonstrate a broad understanding of the fire protection field.

**ETFS 1152. Fire Protection and Safety Law. (3)** Provides information about potential legal liabilities encountered every day by fire and safety personnel. Explains how to research, read and understand various statutes, regulations, and cases. Actual cases are presented in detail and followed by explanations that identify the most important issues facing fire and safety personnel.

**ETFS 1201. Introduction to Fire Safety and Occupational Safety Engineering Technology. (2)** An introduction to disciplines and professional skills in the fire safety and occupational safety professions. Topics include: academic, personal, and professional development; teamwork; computer skills; oral and written communication skills; choosing career pathways.

**ETFS 1220. Introduction to Fire Protection and Prevention. (3)** Prerequisite(s): Engineering major or minor. An introduction to the relevant issues one would encounter upon entering a career in fire protection. Provides a fundamental overview of the history and philosophy regarding fire protection and prevention. Students investigate fire prevention methodologies that include fire codes, identification and correction of fire hazards, and the relationships of fire prevention with built-in fire protections systems, fire investigation, and the positive effects of fire and life-safety education.

**ETFS 1244. Water-Based Fire Suppression. (3)** Provides information relating to the features, design, and operation of water-based sprinkler systems, water supplies for fire protection systems, and hydraulic principles to analyze and to solve water supply problems.

**ETFS 2124. Introduction to Fire Prevention. (3)** An introduction to fire prevention concepts as they relate to community and industrial operations referenced in NFPA standard 101. Topics include the development and maintenance of fire prevention programs, educational programs, and inspection programs. Upon completion, students should be able to research, develop, and present a fire safety program to a citizens or industrial group, meeting.

**ETFS 2126. Fire Investigation and Forensics. (3)** Explores the investigation into various types of fires: structure, wildland, automobile, fabric, and chemical. Topics include: fire chemistry and physics, scene analysis, case analysis, arson, the new generation of petroleum products, post-flashover patterns of damage, misuse of post-fire indicators, and documentation.

**ETFS 2128. Fire and Municipal Financial Operations. (3)** The principles of fire department finances and budgeting including apparatus and equipment purchase, capital improvements, budget preparation and auditing. Discussion of funding sources as well the obligations of being part of a local/municipal government are explored.

**ETFS 2132. Building Construction for Fire Protection. (3)** Studies the components of building construction that relate to fire and life safety. The focus of this course is on fire fighter safety. The elements of construction and design of structures are shown to be key factors when inspecting buildings, preplanning fire operations, and operating at emergencies.

**ETFS 2220. History of Fire in the US. (3)** In-depth discussion and research into the historic fires that shaped today's fire service. Utilizing detailed drawings and the latest technology the course will uncover problems in design and construction, code violations or neglect to manmade or natural causes. What were the lessons learned and corrective measures rendered, with a deeper look into America Burning and its impact to the nation.

**ETFS 2230. Hazardous Materials. (3)** Focuses on the basic knowledge required to evaluate the potential hazards and behavior of materials considered hazardous. Examines the reasons for chemical behavior of hazardous materials and is designed to improve decision making abilities when hazardous materials are encountered in the workplace or at an emergency scene.

**ETFS 2230L. Hazardous Materials Lab. (1)** Pre- or Corequisite(s): ETFS 2230. Lab: Exposes the student to monitoring and testing equipment, Personal Protective Equipment(PPE), and techniques for proper hazardous materials classification in the workplace or emergency scene, improving decision making abilities involving hazardous materials

**ETFS 2256. Fire Service Community Relations. (3)** Fire department public relations both to the community and to the media. Content includes details how the public gains information such as through press releases, press conferences, public information officers, and the prevalence of social media and the impact on the perception of the organization. The fire department's role as public servants is emphasized.

**ETFS 2264. Introduction to Fire Behavior. (3)** Prerequisite(s): Engineering major or minor. A study of the basic terminology, theories, and fundamentals of how and why fires start, spread, are controlled, and the hazards fire causes to life and property.

**ETFS 2264L. Fire Behavior and Combustion Laboratory. (1)** Prerequisite(s): Engineering major or minor. Laboratory experiments and hands-on computer simulations to illustrate the concepts presented in ETFS 2264.

**ETFS 3103. Fire Behavior. (3)** Explores the theories and fundamentals of how and why fires start, spread, and are controlled. Topics include: basic principles of heat transfer, ignition of liquids and solids; fire growth and spread, compartment fire temperatures, and compartment fire phenomena.

**ETFS 3103L. Fire Behavior Lab. (1)** Pre- or Corequisite(s): ETFS 3103 or permission of department. This course provides instruction and hands-on experience with fire science experiments related to the material discussed in the Fire Behavior course.

**ETFS 3113. Fire Safety in the Built Environment. (3)** Prerequisite(s): Engineering major or minor. Describes how an acceptable level of fire safety and resilience can be obtained during the design stage of a structure, and how this level can be maintained during the service life of the structure through the enforcement of fire safety regulations. Topics include: fire safety strategies, fire safety regulations and their enforcement, egress design and maintenance, passive and active fire protection systems, hazardous materials and facilities, and the performance-based approaches to fire safety.

**ETFS 3123. Industrial Hazards and Electricity. (3)** Typical industrial hazards encountered including: compressed gasses, chemicals, bio-toxins, radiation sources, boilers and ovens. Introductory concepts and methods of analysis of AC and DC circuits, electrical switchgear, and rotating machinery. Compliance and reporting issues in an industrial setting. Safety procedures and safety equipment are also discussed in regards to working as a fire safety engineer.

**ETFS 3124. Risk Management. (3)** Techniques for recognizing and controlling risk, personnel accountability, and safety training for workers. Methodologies for avoidance, abatement, and prevention of safety and health hazards in workplaces are also explored.

**ETFS 3136. Airport and Aircraft Emergency Response. (3)** Provides detailed information used by emergency personnel for aviation emergencies. Exploring the different features of the airport, legislation, and the regulations that exist regarding the safety of employees, passengers and public. Aircraft systems are examined including General Aviation, Commercial and Military fixed and rotary wing aircraft. The response, suppression, rescue tactics and theory for dealing with aviation emergencies are also explored.

**ETFS 3141. Fire Safety in Constructed Facilities. (3)** Foundational principles of fire and safety related features in constructed facilities as outlined in NFPA 101, Life Safety Code®. Topics include structural materials and assemblies, prescriptive and performance-based design in both new and existing structures. Landmark fires and their influence on the NFPA 101 will be highlighted.

**ETFS 3144. Active Fire Protection. (3)** Review of fire suppression, alarm, and smoke control systems. Topics include: fixed and portable suppression systems, fire suppression agents and extinguishing mechanisms, fire detection devices, fire protective detection and signaling systems, smoke production in fires and principles of smoke movement and management.

**ETFS 3150. Adult Learning Theory in Safety. (1)** Prerequisite(s): Junior or Senior Standing. A seminar course that introduces the student to the training needs assessment, design, and delivery skills needed to competently implement industrial training programs.

**ETFS 3400. Fire Safety/Occupational Safety Practicum. (1 to 4)** Prerequisite(s): Junior or Senior standing, cumulative 2.2 GPA, and departmental approval. Students participate in an approved applied practicum designed to allow theoretical and course-based learning in a supervised fire and/or safety related environment. Each practicum experience is individual and is arranged with a contract between the supervising faculty member, the student and the employer. Students must complete the practicum proposal form and identify a faculty member who will direct and evaluate the completed work. Practicum requires a weekly progress report as well as a final report and presentation to be graded by the supervising faculty member. *May be repeated for credit up to 4 credits.*

**ETFS 3621. Technology and Innovation in the Fire Service. (3)** This seminar explores the progression brought about by technology and innovation on the critical components of the fire service industry. Students will learn the history of many fire service tools such as fire apparatus, fire pumps, personal protective equipment, communication

and dispatch equipment and rescue tools. The course will incorporate demonstration of current technology accomplished by visits and presentations by both manufacturers and end users utilizing displays both in person and virtual.

**ETFS 3695. Fire Safety Prof. Development Seminar. (1)** A series of disciplinary seminars and activities designed to introduce students to basic concepts of professionalism in the fire service. Topics include: professional ethics, fire department structure and culture, leadership and command issues and lifelong learning.

**ETFS 3800. Independent Study. (1 to 3)** Prerequisite(s): Junior or Senior standing, cumulative GPA of 2.2, and approval of Fire Safety and Occupational Safety program faculty. Designed to allow students to take responsibility for the direction of their learning about a topic of interest to them. Each independent study is individual and is arranged with a contract between the supervising faculty member and the student. Students must complete the independent study proposal form and identify a faculty member who will direct and evaluate the completed work. Each hour of credit for this course should be comparable to what would be expected in the classroom - 15 hours contact time plus outside work or approximately 30 hours. The project is culminated with a final report and presentation. *May be repeated for credit up to 3 credits.*

**ETFS 4123. Community Threat Assessment and Mitigation. (3)** Prerequisite(s): Junior or Senior standing. Focuses on the emergency service's responsibility while conducting major operations involving multi-alarm units, and natural and man-made disasters that may require interagency or jurisdictional coordination. Emphasis is on threat assessment and mitigation strategies of potential large scale disasters including but not limited to earthquakes, hurricanes, terrorism, hazardous materials releases, tornadoes, and floods. Topics include: fireground decision making, advanced incident command, command and control, safety, personnel accountability, hazard preparedness, mitigation, response, recovery, evacuation, sheltering, and communications.

**ETFS 4126. Case Studies in Fire Forensics. (3)** Prerequisite(s): ETFS 2126. Utilizes lecture and case studies of documented fire occurrences to demonstrate the role of scientific protocols in forensic fire engineering. The root-cause analysis of fire occurrence is discussed and how it is documented through fire scene reconstruction.

**ETFS 4132. Fireground Hydraulics. (3)** Exploration of the application of force, weight, velocity and pressure as it relates to the movement of water on the fire ground. Fire loads and the calculation of needed quantities of water are reviewed. Friction loss and flows are calculated for hand hose lines, supply line and master streams. Problems solved will include nozzle reaction forces, theoretical limits of fire pumps, unusual and complex hose layouts including but not limited to wyes, siamese and supply lines.

**ETFS 4243. Research Methodology for Fire Safety and Occupational Safety. (3)** Prerequisite(s): Junior or Senior Standing, Department Permission. Application of practical, up-to-date review of fire research and its application. The transfer of research and its implications for fire prevention and protection programs are addressed. Development of a student project and a written report in a specified area in fire administration or fire science technology with faculty supervision. Analytical modeling, technical research, oral and written reporting of progress and findings are required.

**ETFS 4272. Fire and Safety Capstone. (3)** Prerequisite(s): Senior standing and Fire and Safety Engineering Technology major, or permission of department. Utilization of students' previous coursework to creatively investigate and produce solutions for a comprehensive fire and/or safety engineering technology project.

**ETFS 4280. Wildland Fire in America. (3)** Cross-listed Course(s): MFPA 5280. An overview of the history of wildland fires in the United States. The course explores fires that have had impacts on the study of fire behavior, strategy and tactics for dealing with fires and also includes legislative impacts dealing with ecology and conservation as a result of the fires. The course covers fires from the time of settlement of the United States through contemporary times.

**ETFS 4283. Fire Modeling. (3)** Prerequisite(s): ETFS 3103, and Engineering major or minor. An introduction to fire modeling calculations and computer-based fire modeling techniques. Simple engineering calculations and various types of computer models are presented, and their use for predictions of fire conditions and occupant evacuation are studied.

**ETFS 4285. Fatalities in Wildland Fires. (3)** An in depth look at five wildland fires that each resulted in multiple fatalities. The course details circumstances that the five fires have in common such as unexpected or unpredicted fire behavior, questionable decision making, problematic command structure and failure to appreciate the danger of the situation. Particular attention is paid to pertinent details of each fire that led to the loss of life.

**ETFS 4323. Advanced Fire Service Administration. (3)** A study of management theories, leadership philosophies and strategies for the fire service. Emphasis in the course will be on planning, organizing staffing, and evaluating fire protection services. Public fire education, loss prevention principles, and management of resources particular to fire and emergency services are addressed. Discussion of techniques for assessment of public fire protection and its impact on the community and environment.

**ETFS 4344. Structural Fire Safety. (3)** Prerequisite(s): ETFS 3103, ETME 3123, and Engineering major or minor. Fundamental knowledge for the design and analysis of structures in fire. Topics include: principles of structural design for fire safety, prescriptive-based and performance-based structural fire engineering approaches, behavior of structural materials (e.g., steel, concrete, and timber) in fire, and fire safety design of typical structural members and their assemblies.

**ETFS 4901. Fire Safety Research & Data Analysis. (3)** Examines the basic principles of research and methodology for analyzing current fire-related research. The course also provides a framework for conducting and evaluating independent research in the following areas: fire dynamics, fire test standards and codes, fire safety, fire modeling, structural fire safety, life-safety, firefighter health and safety, automatic detection and suppression, transportation fire hazards, risk analysis and loss control, fire service applied research and new trends in fire-related research. The course also focuses on data visualization and how to format data into useful information.

# Engineering Technology (ETGR)

**ETGR 1100L. Engineering Technology Computer Applications Laboratory. (1)** Introduces the use of computer applications required for engineering technologists. Topics include: using the computer to solve technical problems, an introduction to engineering computer applications, the use of standard office software, and the use of scientific calculators.

**ETGR 1101. Introduction to Engineering Technology and Construction Management. (1)** Prerequisite(s): College of Engineering major. Pre- or Corequisite(s): MATH 1100 or MATH 1101. An introduction to disciplines and professional skills in the engineering technology and construction management professions. Topics include: academic, personal, and professional development; teamwork; engineering design; project planning and implementation; and oral and written communication skills.

**ETGR 1103. Technical Drawing I. (3)** The fundamentals of technical drawing. Topics include: drawing layouts, sketching, orthographic projections, views, lines, dimensioning techniques, and introduction to Computer Aided Drawing (CAD). Upon completion of the course, students should be able to understand, interpret, and produce basic technical drawings, as well as be familiar with the most common commands of modern computer aided drawing tools such as AutoCAD.

**ETGR 1201. Introduction to Engineering Technology. (2)** Pre- or Corequisite Course(s): MATH 1100 or MATH 1101. College of Engineering majors only. Permission of department required for non-majors. An introduction to disciplines and professional skills in the engineering technology and construction management professions. Topics include: academic, personal, and professional development; teamwork; engineering design; mathematical problem solving; and oral and written communication skills.

**ETGR 2101. Applied Mechanics I. (3)** Prerequisite(s): MATH 1103 and Engineering major or minor. Fundamentals and applications of statics to include the analysis of force systems using analytical and graphical methods. Included topics are systems of forces, friction, equilibrium of particles and rigid bodies, distributed force systems, centroids and moments of inertia, and introduction to analysis of structures. In addition, stress, deformation, and strain are presented.

**ETGR 2102. Applied Mechanics II. (3)** Prerequisite(s): ETGR 2101 with grade of C or above; and Engineering major or minor. Fundamentals of mechanics of deformable bodies. Topics of study include building loads, stress and strain, thermal deformation and stress, axial load, statically indeterminate axially loaded members, the principle of superposition, torsion, bending and shear stresses in beams, deflection of beams, transformation of stress and strain, Mohr's circle, and stability and buckling of columns.

**ETGR 2106. Electronic Circuits and Devices. (3)** Prerequisite (s): MATH 1103 and Engineering major or minor. An introduction to AC and DC circuits. Simple series and series-parallel circuits are used to illustrate applications of Ohm's Law and Kirchhoff's Laws. Power in DC resistive circuits are discussed. Sine waves, complex numbers and phasors are introduced to show their applications to analysis of AC circuits. Capacitors and inductors and their effects are covered.

**ETGR 2230. Occupational Safety. (3)** An overview of occupational safety which introduces the numerous safety issues commonly found throughout the world. Topics include: ergonomics, industrial hygiene, accident causation, hazardous materials, health- and safety-related organizations, code compliance, and national standards that address health and safety.

**ETGR 2272. Engineering Analysis II. (3)** Prerequisite(s): MATH 1121 or MATH 1241 with grade of C or above; and Engineering major or minor. A continuation of the study of engineering problem-solving procedures utilizing integral calculus. Topics include: integration, areas, volumes, centroids and moments of inertia by integration and multivariate calculus to include partial derivatives, and double integration.

**ETGR 3000. Special Topics in Engineering Technology. (1 to 4)** Prerequisite(s): Senior standing and Engineering Technology major; or permission of department. Examination of specific new areas which are emerging in the various fields of engineering technology. The course builds upon the knowledge the students have gained from their engineering technology curriculum. *May be repeated for credit.*

**ETGR 3171. Engineering Analysis III. (3)** Prerequisite(s): ETGR 2272 or MATH 1242 with grade of C or above; and Engineering major or minor. A continuation of engineering analysis which includes additional topics and applications in differential equations and linear algebra.

**ETGR 3222. Engineering Economics. (3)** Prerequisite(s): Engineering major or minor. Principles of evaluating alternative engineering proposals. Compound interest formulas and applications, present worth, equivalent uniform annual value, rate of return, depreciation and depletion, economic feasibility of projects.

**ETGR 3295. Multidisciplinary Professional Development. (1)** Prerequisite(s): Junior or Senior standing; and Engineering major or minor. A series of multidisciplinary and disciplinary seminars and activities designed to introduce students to basic concepts of professionalism in engineering. Topics include: global, societal, and contemporary issues of current interest such as leadership, entrepreneurship, ethics, and professional licensure. Each course section is restricted to major disciplines in engineering technology. Sections may be cross-listed with more than one engineering major discipline.

**ETGR 3695. Engineering Technology Practicum Seminar. (1)** Prerequisite(s): ENGR 3500 and Engineering major or minor. Required during the semester immediately following each work assignment for students enrolled in ENGR 3500 for presentation of engineering reports (verbal and oral) on work done the prior semester. *May be repeated for credit.*

**ETGR 4100. Capstone Design Project I. (2)** Prerequisite(s): ETME 3100 (for Mechanical Engineering Technology students); Engineering major or minor; Senior standing; and completion of all lower-division courses and deficiencies. ETEM 3281 *(for Electrical Engineering Technology students)*; ETME 3113; ETME 3143 or ETME 3250; ETME 3150; and ETME 3213 *(for Mechanical Engineering Technology students)*. First of a two-semester course sequence in which student teams implement a Senior-level design project which demonstrates abilities as developed by the

coursework taken thus far. Project planning techniques are utilized to make substantial progress toward implementation of a design solution.

**ETGR 4200. Capstone Design Project II. (2)** Prerequisite(s): ETGR 4100 and Engineering major or minor. Second of a two-semester course sequence in which student teams continue to implement a Senior-level design project which demonstrates abilities as developed by the coursework taken thus far. The design solution developed in the first semester is completed and evaluated during the second semester. The primary engineering results delivered is a set of rational decisions, where the rationality of those decisions are supported by the appropriate analysis and testing. The quality of the design is usually reflected in a prototype of either the hardware or software system.

**ETGR 4272. Engineering Analysis IV. (3)** Prerequisite(s): ETGR 2272 or MATH 1242 with grade of C or above; STAT 1220 with grade of C or above; and Engineering major or minor. A continuation of engineering analysis to include additional topics and applications in vector operations, probability, and statistics.

**ETGR 4301. Environmental Pollution Control. (3)** Cross-listed Course(s): ETGR 5301. Prerequisite(s): CHEM 1200 or above, MATH 1100 or above; Engineering major or minor; and Junior or Senior standing. The major aspects of preventing and controlling air, water, and solid-waste pollution and disposal. Topics include: environmental standards and regulations, engineering controls, remediation techniques, sampling and monitoring, and environmental toxicology.

**ETGR 4302. Industrial Hygiene. (3)** Cross-listed Course(s): ETGR 5302. Prerequisite(s): ETGR 2230, CHEM 1200 or above, MATH 1100 or above, and PHYS 1101 or above; and Junior or Senior standing. Introduces the industrial hygienist's role in characterizing chemical, physical, and biological hazards in the workplace. Topics include: occupational standards and regulations, indoor air quality, ionizing and non-ionizing radiation, thermal stress, sampling/monitoring techniques, personal protective equipment, engineering controls, and program management.

**ETGR 4303. Applied Ergonomics and Human Factors. (3)** Cross-listed Course(s): ETGR 5303. Prerequisite(s): ETGR 2230; MATH 1100 or above; PHYS 1101 or above; and Junior or Senior standing. An overview of the physiological, biomechanical, and psychological concepts related to workplace layout, machine tools, and work methods. An emphasis is placed on the control and prevention of injuries from over-exertion and related musculoskeletal disorders.

**ETGR 4305. System Safety Design and Management. (3)** Cross-listed Course(s): ETGR 5305. Prerequisite(s): ETGR 2230; STAT 1220; and Junior or Senior standing. Application of the techniques and concepts of system safety methodologies and process safety management. Emphasis on the application of scientific, design, and management principles incorporating safety audits, safety management, risk assessment, loss control, and statistical applications across all phases of a system life cycle.

## Mechanical Engineering Technology (ETME)

**ETME 1111. CAD Modeling I. (3)** Introduces the concepts of technical drawing and its relationship to the mechanical design process using a feature-based parametric modeler such as SolidWorks. Topics include: sketching, orthographic projections, pictorial views, dimensioning techniques, and introduction to Computer-Aided Design (CAD).

**ETME 1112. CAD Modeling II. (3)** Prerequisite(s): ETME 1111 with grade of C or above. A continuation of ETME 1111. Introduces the student to advanced modeling techniques employed in Computer-Aided-Drawing (CAD). Topics include: the use of linked features in drawings, traditional and geometric tolerancing, custom templates, assemblies, and basic animation.

**ETME 2100. Sophomore Design Practicum. (2)** Prerequisite(s ETGR 1101 or ETGR 1201 with grade of C or above; and ETME 1112 with grade of C or above; and Engineering major or minor. Corequisite(s): ETME 2100L. A Sophomore-level design practicum focused on a simple, defined mechanical design challenge. Projects are completed in teams and introduce students to the design process, project management, machine shop fabrication techniques, memo style report writing and final project demonstrations. Also reinforces topics learned in previous courses such as CAD modeling, documentation generation (drawings), and analytical modeling.

**ETME 2100L. Sophomore Design Practicum Laboratory. (1)** Prerequisite(s): and Engineering major or minor. Corequisite(s): ETME 2100. A Sophomore-level design practicum focused on a simple, defined mechanical design challenge. Projects are completed individually and introduce students to the design process, project management, machine shop fabrication techniques, memo style report writing and final project demonstrations. Also reinforces topics learned in previous courses such as CAD modeling, documentation generation (drawings), and analytical modeling.

**ETME 2102. Mechanisms. (3)** Prerequisite(s): ETME 1111 with grade of C or above; MATH 1121 or MATH 1241 with grade of C or above; and PHYS 1101 or PHYS 2101 with grade of C or above; and Engineering major or minor. Plane motion and devices used to generate plane motion. Topics include: analysis of displacement, velocity, acceleration, gears, cams, and other mechanical systems.

**ETME 2130. Applied Materials and Manufacturing I. (3)** Prerequisite(s): ETGR 1101 with grade of C or above, and Engineering major or minor. Presents a fusion of material science and the applied processes used to form engineering materials into useful components or assemblies. This course is part 1 of a two-segment series. It focuses on metallic materials with crystalline structure, and the specific processes used to form and finish these materials. Practical instruction in theory of machine tool operation, casting, rolling and joining is presented. Alloying, heat treatment, corrosion and operational environment appropriate for the subject materials in discussed.

**ETME 2131. Applied Materials and Manufacturing II. (3)** Prerequisite(s): ETME 2130, and Engineering major or minor. This course is part 2 of a two-segment series. Focuses on non-metallic materials, polymer-based materials, ceramics, composite materials, and materials with amorphous atomic structure. A fusion of material science and the applied processes used to form the subject engineering materials into useful components or assemblies is presented. Molding autoclaving, polymer cross-linking, and operational environment appropriate for the subject materials are discussed. Manufacturing quality systems are also explored.

**ETME 3100. Junior Design Practicum. (3)** Prerequisite(s): ETME 2100, and Engineering major or minor. Pre- or Corequisite(s): ETME 3133. Corequisite(s): ETME 3100L. A Junior-level design studio focused on a more complex, but still completely defined, thermo-fluids and energy system based design challenge. Projects are completed in teams and introduce students to group project dynamics, advanced machine shop techniques, data acquisition and analysis. Also reinforces topics learned in previous courses such as the design process, project management, formal report style writing, math modeling (Excel, MATLAB, MathCad or EES), documentation generation (Drawings + Procedure), final project demonstrations, and analytical modeling.

**ETME 3100L. Junior Design Practicum Laboratory. (1)** Prerequisite(s): Engineering major or minor. Corequisite(s): ETME 3100. A Junior-level design practicum focused on a more complex, but defined, thermo-fluids and energy system based design challenge. Projects are completed in teams (3 to 4) and introduce students to group project dynamics, advanced machine shop techniques, data acquisition and analysis. Also reinforces topics learned in previous courses such as the design process, project management, formal report style writing, math modeling (Excel, MATLAB, MathCad and/or EES), documentation generation (Drawings + Procedure), final project demonstrations, and analytical modeling. Meets for one 3-hour laboratory session each week.

**ETME 3113. Dynamics. (3)** Prerequisite(s): ETGR 2101 with grade of C or above, and Engineering major or minor. Pre- or Corequisite(s): ETGR 2272 or MATH 1242. The dynamic behavior of particles; translation, rotation and plane motion of a rigid body, the principles of conservation of energy and momentum.

**ETME 3143. Thermodynamics. (3)** Prerequisite(s): ETME 3133, and Engineering major or minor. Pre- or Corequisite(s): ETGR 2272 or MATH 1242 with grade of C or above. Fundamentals of thermodynamics including work and heat; classical approach to first and second laws of thermodynamics; ideal gas, entropy, reversibility, irreversibility, and study of various processes and cycles.

**ETME 4244. Applied Heat Transfer. (3)** Prerequisite(s): ETME 3143, and Engineering major or minor. Basic principles of heat transfer. Theory and applications of conduction, free and forced convection and radiation heat transfer. Heat exchangers and heat transfer measurement.

# Entrepreneurship (ENTR)

**ENTR 1511. The Entrepreneurial Mindset. (3)** Designed to help students understand what an entrepreneurial mindset is and guide them in developing their own entrepreneurial mindset. An entrepreneurial mindset manifests as an inclination to discover, evaluate, and exploit opportunities, to passionately seek out new opportunities, to pursue opportunities with discipline, to anchor on the right opportunities, to focus on the execution of opportunities, and to engage others to support one's mindset and actions. These opportunities exist everywhere, whether as a potential for a newly engineered solution to a medical need, leveraging of digital technologies in novel ways to address social needs, innovating public policies to more effectively allocate resources in society, or facilitating new ways for individuals to communicate or otherwise engage. An entrepreneurial mindset is rooted in specific entrepreneurial principles that drive key behaviors (e.g., prototyping, experimentation, storytelling) to help individuals more effectively recognize and take advantage of opportunities. Students will gain an appreciation of the principles that underpin an entrepreneurial mindset and enact the principles in a series of experiential exercises.

**NTR 3000. Special Topics – Entrepreneurship. (3)** Prerequisite(s): Junior or Senior in good standing and enrollment in the Entrepreneurship Certificate program. Serves as a special topics course for the undergraduate certificate in entrepreneurship. *May be repeated for credit with change of topic and for up to 6 credit hours.*

**ENTR 3276. Recognizing Entrepreneurial Opportunities. (3)** Prerequisite(s): Junior or Senior standing, and enrollment in the Undergraduate Certificate in Entrepreneurship program. Helps students take the first step as an entrepreneur. Before entrepreneurs can organize ventures around innovative solutions to exploit opportunities, entrepreneurs benefit from first recognizing and evaluating opportunities. Students achieve two course objectives fundamental to being an entrepreneur: (1) students put together an opportunity portfolio - a detailed understanding and analysis of an industry/technology and all of the situational conditions that inform the opportunity within that industry/technology context; and (2) based on this opportunity portfolio, students are tasked with pitching a potential solution to a specific opportunity.

**ENTR 3278. Experiential Entrepreneurship. (3)** Prerequisite(s): Junior or Senior standing; Enrollment in the Entrepreneurship Certificate Program. Entrepreneurs work in contexts where they cannot control what ultimately occurs. As means to increase students' self-confidence and mental fortitude for uncertain contexts, this course seeks to present students with conditions of uncertainty and complexity. It involves different approaches, from engaged learning exercises, individual and team projects, to interactions with entrepreneurs.

**ENTR 3279. Entrepreneurial Action and Organizing. (3)** Prerequisite(s): Junior or Senior standing; Enrollment in the Entrepreneurship Certificate Program. Many individuals often recognize the same opportunities, but only some individuals become entrepreneurs by taking the actions to exploit the opportunity, and only a few of the entrepreneurs become successful by exploiting the opportunity effectively. This course provides students with an understanding of how they can shift from recognizing opportunities to taking actions to exploit the opportunities to create value for a market and for society. It involves a combination of readings, casework, and experiential exercises aimed at helping students learn from real entrepreneurs' experiences, but also providing initial exercises to allow students to put into action what they have learned.

# Exercise Science (EXER)

**EXER 1099. Topics in Games/Exercise/Sports. (1 to 3)** Specialized topics or innovations in games, exercise, and sports. *May be repeated for credit with change of topic.*

**EXER 1100. Introduction to Anatomy and Physiology. (3)** Prerequisite(s): PEXE, PNUS, PNUF, PNUT majors. Provides a foundation of basic anatomy and physiology terms and concepts using evidence-

based study skills and learning strategies. The course is intended to support student success in the EXER 2168/EXER 2169 Anatomy and Physiology sequence.

**EXER 1202. Weight Training. (1)** Prerequisite(s): Pre-Kinesiology or Exercise Science major. The foundations of creating, implementing, and performing a safe and effective exercise routine.

**EXER 1204. Aerobic Fitness. (1)** Prerequisite(s): Pre-Kinesiology or Exercise Science major. Exercise programming designed to develop and maintain cardiovascular fitness through aerobic activity choreographed to music.

**EXER 1205. Beginning Yoga. (1)** Prerequisite(s): Pre-Kinesiology or Exercise Science major. An introduction to the practice and philosophy of yoga. Students learn how to apply the principles of yoga to enhance physical health and mental well-being.

**EXER 1208. Walk, Jog, Run. (1)** Prerequisite(s): Pre-Kinesiology or Exercise Science major. Principles of walking, jogging, and running as modes for improving and maintaining cardiovascular health and physical fitness.

**EXER 1222. Racquet Sports. (1)** Prerequisite(s): Pre-Kinesiology or Exercise Science major. Basic skills, tactics, safety, and rules of racquetball, court and table tennis, squash, and badminton.

**EXER 1250. Volleyball. (1)** Prerequisite(s): Pre-Kinesiology or Exercise Science major. The rules, fundamental skills, and strategies of the game of volleyball. Games are played each class to sharpen students' skills, knowledge, and sportsmanship.

**EXER 1263. Body Shaping. (1)** Prerequisite(s): Pre-Kinesiology or Exercise Science major. Safe and appropriate implementation of various resistance training modalities for the improvement of muscular fitness.

**EXER 1290. First Aid: Responding to Emergencies. (3)** The knowledge and skills associated with being a first responder in case of injury or sudden illness. Qualifying students may receive certifications in: Responding to Emergencies-First Aid, CPR/AED for the Professional Rescuer, Preventing Disease Transmission (Bloodborne Pathogens Training), and Automated External Defibrillator (AED). Open to all students during Summer session. Not accepted for those wanting the Athletic Training major. There is a $20 additional course fee.

**EXER 2101. Foundations of Physical Conditioning. (3)** Prerequisite(s): Pre-Kinesiology or Exercise Science major. The basic science and application of physical training programs designed to improve and maintain physical fitness. Emphasis on introducing the core competencies of the Exercise Science degree program. Designed to place the student in the practitioner's role of developing and leading fitness programs for individuals and/or groups.

**EXER 2150. Introduction to Exercise Science. (3)** Prerequisite(s): Pre-Kinesiology or Exercise Science major. Introduction to the study of exercise science with an emphasis on key concepts, knowledge, skills, practices, workplace settings, and trends.

**EXER 2168. Human Anatomy and Physiology for the Health Professions. (3)** Prerequisite(s): A grade of C or better in EXER 1100 or BIOL 1110 or BIOL 2120 or CHEM 1200 or CHEM 1203 or CHEM 1251 or placement test; Pre-Exercise Science or Pre-Nursing major. Fundamentals of the anatomy and physiology of the human body for the health professions. May be taken as an equivalent of BIOL 2273. May not be attempted more than twice.

**EXER 2168L. Human Anatomy and Physiology for the Health Professions Laboratory. (1)** Prerequisite(s): Pre-Kinesiology or Pre-Nursing major. The accompanying lab to EXER 2168. One laboratory period of three hours a week. May be taken as an equivalent of BIOL 2273L.

**EXER 2169. Human Anatomy and Physiology for the Health Professions II. (3)** Prerequisite(s): EXER 2168 and EXER 2168L with grades of C or above. Structure, function, and integration of human body systems. Continuation of EXER 2168. EXER 2169 may be taken in place of BIOL 2274 for Exercise Science majors.

**EXER 2169L. Human Anatomy and Physiology for the Health Professions II Laboratory. (1)** Prerequisite(s): EXER 2168 and EXER 2168L with grades of C or above, and Pre-Exercise Science or Pre-Nursing major. The accompanying lab to EXER 2169. One laboratory period of three hours a week. EXER 2169L may be taken in place of BIOL 2274L for Exercise Science majors.

**EXER 2200. Wellness Literacy - Developing Skills for Health and Wellbeing. (3)** Prerequisite(s): Permission of instructor. Explores components of wellness literacy, including health, physical, mental, social, and digital wellness. Students will acquire the knowledge and skills necessary to make informed health-related decisions, participate in lifelong physical activity, manage stress and emotions, build healthy relationships, and use technology responsibly. Through interactive life-applicable activities, self-assessments, practical applications, and evidence-based tactics, students will develop a holistic understanding of wellness that empowers them to lead healthier, more balanced lives. An emphasis is placed on the development of career and personal skills including communication, critical thinking, and career and self-development.

**EXER 2201. Exercise Science Undergraduate Teaching Assistant. (1 to 3)** Prerequisite(s): EXER major; Instructor approval required. Undergraduate teaching assistants (UGTAs) assist faculty with the administration of courses while being introduced to best practices in teaching and learning. All UGTAs are expected to meet with the supervising faculty member once a week, attend all class meetings of the course in which they are assisting, hold a minimum of two office hours per week, and complete other activities as requested by the instructor. *May be repeated once for credit.*

**EXER 2202. Group Fitness Instructor Training. (3)** Prepares students with the cognitive knowledge and physical skills necessary to pass a Group Fitness Instructor National Certification Exam.

**EXER 2294. Care and Prevention of Athletic Injuries. (3)** Prerequisite(s): Pre-Kinesiology or Exercise Science major. Focus on the healthcare competencies necessary for the prevention, emergency management and acute care of athletic related injuries. Also provides an introduction to the role of the Certified Athletic Trainer in providing health to the physically active individual.

**EXER 2295. Care and Prevention of Athletic Injuries Laboratory. (1)** Prerequisite(s): Pre-Kinesiology or Exercise Science major. Focus on the psychomotor competencies and clinical proficiencies necessary for the prevention, emergency management and acute care of athletic-related injuries.

**EXER 2296. Evidence-Based Practice. (3)** Prerequisite(s): Departmental Honors students with permission of instructor. Gain knowledge of critical appraisal and experience in the practice of evidence based healthcare.

**EXER 2299. Medical Terminology. (3)** Prerequisite(s): EXER major, Undergraduate Certificate in Nutrition. Students learn proper medical and scientific terminology usage within the context of human anatomy, physiology, and pathology.

**EXER 2303. Personal Trainer Certification Preparation. (3)** Prepares students in the cognitive knowledge and physical skills necessary to pursue national certification as a Personal Trainer.

**EXER 2333. Baseball Through History and Playing I (1800s-1947). (3)** Half of this course explores the socioeconomic climate of baseball's origins from the 1800s up to Jackie Robinson's debut in 1947. The other half provides activity-oriented instruction that introduces softball's emergence from baseball through basic skills, rules, and strategies of the game.

**EXER 2334. Baseball Through History and Playing II (1947-Present). (3)** Half of this course explores the socioeconomic climate of baseball from Jackie Robinson's debut in 1947 to present times. The other half provides activity-oriented instruction that introduces softball's emergence from baseball through basic skills, rules, and strategies of the game.

**EXER 3099. Movement Problems/Topics. (1 to 6)** Prerequisite(s): Permission of instructor. Movement problems/topics chosen by the student which relate to special areas of interest. *May be repeated for credit with permission of instructor.*

**EXER 3100. Organization and Administration of Exercise Science. (3)** Prerequisite(s): Exercise Science major and permission of instructor or SPOA students seeking Sports Analytics Certificate. Provides the necessary knowledge and skills of organization and administration in various settings within exercise science field. Additionally, students gain the knowledge and skills in professional development and responsibility necessary to function as a professional in exercise science.

**EXER 3190. Emergency Medical Response. (3)** Prerequisite(s): Exercise Science major. The knowledge and skills necessary to work as an emergency medical responder (EMR) to help sustain life, reduce pain and minimize the consequences of injury or sudden illness until more advanced medical care arrives and takes over. Qualifying students may receive certifications in: Emergency Medical Response, CPR/AED for the Professional Rescuer and Healthcare Provider, Preventing Disease Transmission (Bloodborne Pathogens Training).

**EXER 3198. Applied Kinesiology. (3)** Prerequisite(s): Grades of C or higher in EXER 2168 or BIOL 2273, EXER 2168L or BIOL 2273L, EXER 2169 or BIOL 2274, EXER 2169L or BIOL 2274L, CHEM 1251 or CHEM 1203, CHEM 1251L or CHEM 1203L, EXER 2101, EXER 2150, STAT 1220 or STAT 1221 or STAT 1222; Exercise Science major; Pre-Exercise Science major. The study of musculoskeletal anatomy and how it relates to normal function of the human body.

**EXER 3260. Nutrition for the Physically Active. (3)** Prerequisite(s): Grades of C or higher in EXER 2168 or BIOL 2273, EXER 2168L or BIOL 2273L, EXER 2169 or BIOL 2274, EXER 2169L or BIOL 2274L, CHEM 1251 or CHEM 1203, CHEM 1251L or CHEM 1203L, EXER 2101, EXER 2150, STAT 1220 or STAT 1221 or STAT 1222; Exercise Science major, Pre-Exercise Science major, or student enrolled in the Nutrition Certificate. Introduction to principles and concepts of nutrition and how dietary practices affect health and disease.

**EXER 3280. Exercise Physiology: Foundation and Theory. (3)** Prerequisite(s): EXER 2169 or BIOL 2274 with grade of C or above; and Exercise Science major; Pre-Exercise Science major. The physiological responses to exercise, adaptations to exercise training, and the mechanisms responsible for them in relation to both health fitness and athletic performance.

**EXER 3285. Principles of Strength and Conditioning. (3)** Prerequisite(s): EXER 2298 and EXER 3280 with grades of C or above, and Exercise Science major. The biomechanical and physiological principles of strength and conditioning for the physically active.

**EXER 3285L. Principles of Strength and Conditioning Lab. (1)** Prerequisite(s): EXER 3285 and Exercise Science major with Concentration in Strength and Conditioning, or permission of instructor. Lecture material and laboratory experiences for the biomechanical and physiologic principles of strength and conditioning programs. Strong focus on practical application of strength and conditioning principles for training and testing techniques for special populations, apparently healthy populations, and athletes.

**EXER 3286. Exercise Testing: Foundation and Theory. (3)** Prerequisite(s): EXER 3280 with grade of C or above, and Exercise Science major. Methods, instruments and protocols for collecting and interpreting health and fitness data to be used for pre-participation screening and individual and group exercise prescription.

**EXER 3286L. Exercise Testing Lab. (1)** Prerequisite(s): Exercise Science major. Corequisite(s): EXER 3286. Practitioner lab in the use of appropriate data collection methods and protocols.

**EXER 3287. Exercise Testing: Principles and Applications. (3)** Prerequisite(s): EXER 3280 with grade of C or above. Corequisite(s): EXER 3286. Application of principles using laboratory experiences to develop skills appropriate to the domain of exercise testing. Industry standard data collection instruments, methods, and protocols are used. Supports the content presented in EXER 3286.

**EXER 3288. Upper Body Injury Evaluation. (3)** Orthopedic evaluation competencies for assessing athletic-related injuries and pathology to the upper extremities, cervical and thoracic spine.

**EXER 3289. Upper Body Injury Evaluation Laboratory. (1)** Corequisite(s): EXER 3288. Practitioner lab focusing on the psychomotor competencies and clinical proficiencies related to upper extremity, cervical and thoracic spine injury, and pathology assessment.

**EXER 3290. Lower Body Injury Evaluation. (3)** Prerequisite(s): EXER 2295 and EXER 2298. Orthopedic evaluation competencies for assessing athletic-related injuries and pathology to the lower extremities and lumbar spine.

**EXER 3291. Therapeutic Modalities. (3)** Prerequisite(s): EXER 2295 and EXER 2298. Theories and techniques of therapeutic modalities within the scope of athletic training.

**EXER 3292. Therapeutic Modalities Laboratory. (1)** Corequisite(s): EXER 3291. Practitioner lab focusing on the psychomotor competencies and clinical proficiencies related to the use of therapeutic modalities within the scope of athletic training.

**EXER 3293. General Medical and Psychosocial Aspects of Athletic Training. (3)** Prerequisite(s): EXER 3290 and EXER 3295. Cognitive, psychomotor, and affective competencies and proficiencies that the entry-level certified athletic trainer must possess to recognize, treat, and refer, when appropriate, the general medical conditions, psychosocial situations, and disabilities of athletes and others involved in physical activity.

**EXER 3295. Lower Body Injury Evaluation Laboratory. (1)** Corequisite(s): EXER 3290. Practitioner lab focusing on the psychomotor competencies and clinical proficiencies related to lower extremity and lumbar spine injury evaluations.

**EXER 3298. Therapeutic Exercise Foundations. (3)** Prerequisite(s): EXER 3290 and EXER 3295. Study of the theory and principles that guide the application of therapeutic exercise.

**EXER 3330. Motor Development & Pedagogy. (3)** Prerequisite(s): Must be enrolled as an Exercise Science major. Introduction to motor-development principles that impact people from birth through adulthood, including progressions and regressions in cognitive, motor, affective, and physical domains. After students learn pedagogical strategies that reflect these principles, they will apply them by teaching age-appropriate motor activities at a movement-based program.

**EXER 3333. Pedagogy in Exercise Science. (3)** Prerequisite(s): Exercise Science major. Best practices in teaching exercise, physical activity, and lectures in an exercise-science context. Covers brain-based learning theory and strategies to plan and teach individuals, small classes, or large groups.

**EXER 3400. Athletic Training Clinical I. (2)** Prerequisite(s): EXER 2295 and EXER 2298. Acquisition and application of clinical proficiencies and psychomotor competencies necessary for the entry-level athletic trainer. Students must complete approximately 20 hours of clinical experience per week at an approved athletic training clinical agency.

**EXER 3401. Athletic Training Clinical II. (2)** Prerequisite(s): EXER 3400. Continuation of EXER 3400. Students must complete approximately 20 hours of clinical experience per week at an approved athletic training clinical agency.

**EXER 3490. Exercise Science Internship. (3)** Prerequisite(s): Exercise Science major, and EXER 3190 and EXER 3660 with grades of C or above. Application of acquired knowledge and skills in practitioner settings. Requires a minimum of 115 contact hours at the internship site. *May be repeated for credit one time with change of internship site.*

**EXER 3660. Practitioner Seminar. (1)** Prerequisite(s): Exercise Science major. Emphasis on contemporary practices regarding exercise, health, and wellness. Designed to foster student professional development and preparation for the Exercise Science Internship.

**EXER 3800. Directed Independent Studies in Movement Problems. (1 to 6)** Prerequisite(s): Minimum of 15 credit hours in the Exercise Science major with a total of 65 credit hours toward the degree and in good academic standing. Independent study under the supervision of an appropriate faculty member. *May be repeated up to 6 credit hours with permission of instructor.*

**EXER 3900. Undergraduate Research. (1 to 3)** Prerequisite(s): Exercise Science major and permission of instructor or SPOA students seeking Sports Analytics Certificate and permission of instructor. Enables majors to initiate research projects in their respective fields of interest. *May be repeated for credit with change of topic. A maximum of nine credit hours may be applied toward the major.*

**EXER 4100. Organization and Administration of Strength and Conditioning. (3)** Cross-listed Course(s): KNES 5100. Prerequisite(s): Exercise Science major (Strength and Conditioning concentration). Provides the knowledge and skills pertaining to the organization, administration, and oversight of Strength and Conditioning programs, including facility design, assessing program needs, safety, legal, and ethical issues.

**EXER 4105. Leadership in Healthcare Organizations. (3)** Prerequisite(s): EXER major. Focuses on the theories and practices of leadership in healthcare. Global, social, legal, political, economic, and ethical issues are explored.

**EXER 4115. Undergraduate Research Methods in Applied Physiology, Health, and Clinical Sciences. (3)** Cross-listed Course(s): KNES 5115. Prerequisite(s): Exercise Science major and permission of instructor or SPOA students seeking a Sports Analytics Certificate. Explores the scientific method with an emphasis on evidence-based practice in kinesiology. After exploring the fundamentals of research design, students engage in small group exercises to develop hypothesis driven mock research studies, followed by class discussion to identify limitations and strengths of the chosen designs. These exercises support the student's ability to read and critically analyze the scientific literature pertinent to the field.

**EXER 4121. Pharmacology for the Physically Active. (3)** Prerequisite(s): Exercise Science major, and EXER 3280 or permission of instructor. An examination of the historical aspects of use, abuse, and addiction within the realm of health and human performance. Exposes students to a wide variety of drug issues and the unique use and abuse patterns of individuals in the exercise science arena.

**EXER 4130. Applied Nutrition. (3)** Principles of nutrition, dietary guidelines, dietary relationships to diseases and health, special populations, computerized dietary analysis.

**EXER 4132. Lifetime Weight Management and Behavior Change. (3)** Prerequisite(s): EXER major; NUTR Certificate. Examines factors in obesity and weight control, emphasizing techniques in behavior modification and lifestyle change for effective weight management.

**EXER 4134. Assessment and Development of Physical Fitness. (3)** Prerequisite(s): Permission of instructor. Responses and adaptations to exercise, assessment techniques, exercise prescription, leadership and programming.

**EXER 4202. Pedagogy in Exercise Science. (3)** Prerequisite(s): EXER major. Best practices in teaching exercise, physical activity, and lectures in an exercise science context. It covers brain-based learning theory and strategies to plan and teach individuals, small classes, or large groups.

**EXER 4240. Clinical Research Management. (3)** Prerequisite(s): STAT 1322 and permission of department. Examines how industry-standard ethical, legal, regulatory, and organizational guidelines governing clinical research project management, research design, and data handling are applied to the management of clinical research.

**EXER 4285. Advanced Strength and Conditioning Theory and Technique. (3)** Prerequisite(s): Exercise Science major (Strength and Conditioning concentration) and EXER 3285 with grade of C or above. Introduces advanced scientific principles that govern the development of strength and conditioning programs. Emphasizes the evidence-guided development and implementation of programs that increase strength, aerobic capacity, flexibility, speed, and agility. Prepares students for nationally recognized certifications, such as the National Strength and Conditioning exams.

**EXER 4286. Exercise Prescription. (3)** Prerequisite(s): Exercise Science major, and EXER 3286 and EXER 3287 with grades of C or above. Interpreting physical fitness assessments and developing exercise prescriptions for individuals who are healthy or have medically controlled diseases.

**EXER 4290. Therapeutic Exercise. (3)** Prerequisite(s): EXER 3298. Application of the therapeutic techniques used in rehabilitation for upper and lower body injuries within the scope of athletic training.

**EXER 4291. Principles of Coaching for Exercise and Sport. (3)** Prerequisite(s): EXER 3660; Must be in the Health & Fitness or Strength & Conditioning Concentrations. Explores the history of coaching, coaching models, and professional skill development in strength & conditioning and health/fitness settings. Students will investigate psychological techniques to enhance motor learning, performance, and adherence while developing leadership, communication, and motivation strategies. Through evidence-based practice and ethical application, students learn to create supportive environments that drive performance and behavior change across diverse populations.

**EXER 4292. Organization and Administration of Athletic Training. (3)** Prerequisite(s): EXER 4290. Athletic training organization and administration.

**EXER 4293. Biomechanics. (3)** Prerequisite(s): Exercise Science major and EXER 2298 with grade of C or above. Introduction to the study of physics principles as they govern human movement, how the neuromuscular system controls human movement, the mechanical principles that underlie musculoskeletal injury, and the influence that gender and ethnicity may have on various musculoskeletal pathologies.

**EXER 4333. Sport and Exercise Psychology. (3)** Cross-listed Course(s): KNES 5333. Prerequisite(s): Exercise Science major with Strength and Conditioning concentration; and permission of program director. An examination of psychosocial theories and research related to sport and exercise behavior. Covers the psychological factors that influence participation in and performance of exercise.

**EXER 4400. Athletic Training Clinical III. (2)** Prerequisite(s): EXER 3401. Acquisition and application of advanced clinical proficiencies and psychomotor competencies necessary for the entry-level athletic trainer. Students must complete approximately 20 hours of clinical experience per week at an approved athletic training clinical agency.

**EXER 4401. Athletic Training Clinical IV. (2)** Prerequisite(s): EXER 4400. Continuation of EXER 4400. Students must complete approximately 20 hours of clinical experience per week at an approved athletic training clinical agency.

**EXER 4440. Strength and Conditioning Internship. (3)** Prerequisite(s): EXER 3190, EXER 3660; EXER major, Strength and Conditioning Internship. Application of knowledge and skills in a practitioner setting. The 3-credit hour internship is required, twice, for students in the Strength and Conditioning Concentration. May be repeated one time for credit.

**EXER 4442. Strength and Conditioning Internship II. (3)** Prerequisite(s): EXER 4440. EXER major, Strength and Conditioning Concentration. Application of knowledge and skills in a practitioner setting. This 3-credit hour internship is the SECOND in a series of 2 internships for students in the Strength and Conditioning Concentration. These requirements meet the CASCE standards and guidelines.

**EXER 4490. Exercise Science Internship. (9)** Prerequisite(s): EXER 3190 and EXER 4660 with grades of C or above; and completion of all required Exercise Science major courses with grades of C or above, except EXER 4132. Application of knowledge and skills in practitioner settings. The 9-credit-hour internship is required for students in the Certified Exercise Physiologist Credentialing concentration and the Strength and Conditioning concentration.

**EXER 4700. Honors Research I. (3)** Prerequisite(s): Permission of Program Major Coordinator; and approval of a proposal through the Honors College Application to Candidacy process the semester prior to taking the course. Honors project directed by Exercise Science Honors committee or assigned faculty member. One faculty contact hour per week and independent research.

# Farsi (FARS)

**FARS 1201. Elementary Farsi I. (3)** Corequisite(s): FARS 1201L. Fundamentals of the Farsi language, including speaking, listening comprehension, reading, and writing.

**FARS 1201L. Elementary Farsi I Lab. (1)** Corequisite(s): FARS 1201. Continuation of class activities, practicing the fundamentals of the Farsi language, including speaking, listening comprehension, reading, and writing.

**FARS 1202. Elementary Farsi II. (3)** Prerequisite(s): FARS 1201 and FARS 1201L, or permission of department. Corequisite(s): FARS 1202L. Fundamentals of the Farsi language, including speaking, listening comprehension, reading, and writing.

**FARS 1202L. Elementary Farsi II Lab. (1)** Prerequisite(s): FARS 1201 and FARS 1201L. Corequisite(s): FARS 1202. A continuation of class activities, practicing the fundamentals of the Farsi language, including speaking, listening comprehension, reading, and writing.

# Film Studies (FILM)

**FILM 1502. Global Arts/Humanities: Introduction to Film and Media Art. (3)** This Global Theme course uses the methods and insights of the arts and humanities to explore the central question of what it means to be a citizen of the world. Through the study of one or more different peoples, societies or cultures across the globe, students will be able to better understand themselves as part of complex, interconnected world. Students are introduced to film and media arts as a dynamic language which continues to speak across cultures through historical and new media developments toward a diverse set of social, political, economic and cultural progressions. Students will explore a wide array of movements, figures and works associated with the history, theory and production of film to gain a deeper understanding of the interconnected relationship between media and culture through its evolution. *May not be taken for credit and for a grade if credit has been received for FILM 2201.*

**FILM 2201. Introduction to Film. (3)** Introduction to elements of film needed for analyzing and writing about film. *May not be taken for credit and for a grade if credit has been received for FILM 1502.*

**FILM 3050. Topics in Film Theory, Culture, and History. (3)** National film histories, film analysis, film criticism, film genres. *May be repeated for credit with change of topic.*

**FILM 3051. Topics in Film Production. (3)** Courses in film, media, and video production (cinematography, editing, producing, screenwriting, etc.). *May be repeated for credit with change of topic.*

**FILM 3120. The Fundamentals of Video/Film Production. (3)** Key components: planning and preparation through post-production and presentation, including writing a simple screenplay, storyboarding, locating equipment, casting, shooting, editing, post production synchronization, and exhibition.

**FILM 3121. Cinematic Storytelling. (3)** Prerequisite(s): FILM 3120 or permission of program. Cinematic approaches and presentations of film and media storytelling such as techniques utilizing light and shadow, creative composition approaches, symbolic camerawork and other advanced image-making techniques.

**FILM 3220. Introduction to Screenwriting. (3)** Introduction to the craft of screenwriting through a series of short-form screenplay exercises. Intensive study of the basic elements of story and script formatting and analysis of representative films.

**FILM 3221. Advanced Screenwriting. (3)** Prerequisite(s): FILM 3220 or permission of program Advanced storytelling techniques such as subtext, symbolism, thematic development, world-building and dialogue. Students identify treatments and develop outlines prior to the completion of works or substantial portions of long-form projects including but not limited to feature-length films, long-form shorts and episodic works. Students must complete the prerequisite of FILM 3220: Introduction to Screenwriting before taking this course.

**FILM 3800. Directed Project in Film or Video. (1 to 3)** Prerequisite(s): FILM 1502 and FILM 3120, or permission of Film Studies Director or instructor. Pre- or Corequisite(s): FILM 3220 or permission of Film Studies Director or instructor. Individual work on a selected film project or area of film study. To be arranged with the instructor, generally during the preceding semester, and by special permission only. *May be repeated for credit.*

**FILM 4120. Production and Directing. (3)** Prerequisite(s): FILM 3120, FILM 3220, or permission of Film Studies Director and instructor. Advanced study of the elements of producing and directing a film project, including working with actors, writers, and other members of a film team.

**FILM 4121. Creative Nonfiction Production. (3)** Prerequisite(s): FILM 3120, or permission of program. A projects-based course that explores documentary modes and methodologies through historical dissection and contemporary lens. Students analyze works and produce short creative nonfiction works over the course of the semester with a focus on personal storytelling and contributing to larger film and media conversations.

**FILM 4122 – Music Video Production. (3)** Prerequisite(s): FILM 3120, or permission of program. A media production course designed to explore visual practices in relation to music and sound-based elements including experimental approaches to performance and story-based film projects. Over the course of the semester, students will fully produce their own dynamic works around a centralized musical component.

**FILM 4220. Film Festivals & Impact Production. (3)** Pre- or Corequisite(s): FILM 3120. Focus on the history and evolution of film festivals and other cultural presentations of film and media including evolving practices in equitable access, programming transparency, and community impact. This course culminates in the development and presentation of a unique community-based cultural event.

**FILM 4221. Community-Based Film Production. (3)** Prerequisite(s): FILM 1502 and FILM 3120, or permission of the instructor. Offers students an opportunity to partner with specific Charlotte communities in order to produce meaningful media content. Explores how film can be used as a tool for social mobility, empowerment, and connection.

**FILM 4320. Acting & Directing for Film. (3)** Pre- or Corequisite(s): FILM 3120, or permission of program. A theory/workshop course that explores significant acting and directing methodologies and their cinematic evolution from historical to contemporary implementations. Students

gain experience acting and directing through guided production of scenes (scriptwriting, casting, rehearsals, blocking, coverage and editing) to produce compelling cinematic sequences.

**FILM 4410. Professional Internship in Film Studies. (1 to 6)** Prerequisite(s): FILM 1502; FILM 3120 or equivalent; Film Studies minor; and permission of the Director of the Film Studies program and student's major advisor. Faculty-supervised field and/or research experience in a cooperating professional (e.g., business) or community organization. Contents of internship based upon a contractual agreement among the student, department, and business or community organization.

**FILM 4690. Capstone in Film & Media Production. (3)** Prerequisite(s): FILM 3120 and three FILM courses at the 3000 or 4000 level; Senior standing; Major concentration and certificate students only. This senior practicum course acts as a pre-professional launching pad and exploration of career options for Film & Media Production students. Students develop a thesis project and ancillary materials over the course of the semester to complete their professional portfolio. Film & Media Production students are highly encouraged to take this their final semester after completing all required production courses.

# Finance (FINN)

**FINN 3000. Topics in Finance. (3)** Prerequisite(s): Junior or Senior standing. Topics from the area of finance. *May be repeated for credit with change of topic.*

**FINN 3120. Financial Management. (3)** Prerequisite(s): MATH 1120, STAT 1220; ACCT 2121; ACCT 2122 or ACCT 3323; ECON 2101; ECON 2102; INFO 2130; Business major; and Junior or Senior standing. Principles and problems of financial aspects of managing capital structure, least-cost asset management, planning and control. Computer application is included where appropriate.

**FINN 3220. Financial Analysis. (3)** Prerequisite(s): FINN 3120. An introduction to the theory and practice of corporate valuation. Topics include: financial statement analysis, discounted cash flow valuation, ratio analysis, constructing pro-forma financial statements, earnings forecasting, and basic statistical methods important in finance.

**FINN 3221. Financial Institutions and Markets. (3)** Prerequisite(s): FINN 3120. A study of financial institutions and money and capital markets, and the role of financial institutions in the intermediation process. Special emphasis is on the comparative financial policies of financial institutions considered in the context of their market environments.

**FINN 3222. Investments. (3)** Prerequisite(s): FINN 3120. Major topics are security analysis and portfolio management. The viewpoint is that of the investment professionals who are concerned with the evaluation of individual securities and management of security portfolios.

**FINN 3223. International Financial Management. (3)** Prerequisite(s): FINN 3120 with grade of C or above; and Finance or International Business major, International Management minor, or permission of department. Viewpoints are those of the senior financial officer of an international corporation and of the international officer of a commercial bank. Topics include: the financing of exports and imports, financing of foreign operations, consideration of foreign exchange rates, and the impact of accounting procedures on financial management.

**FINN 3224. Applied Business Finance. (3)** Prerequisite(s): FINN 3120. Case studies of the theories and techniques of business finance as they relate to the goal of the financial manager; the maximization of the firm value. Topics include: financial statement analysis, valuation, financial instruments, capital structure, and capital budgeting.

**FINN 3225. Commercial Bank Management. (3)** Prerequisite(s): FINN 3120. A study of sound and efficient techniques for the management of commercial banks. Topics include: industry structure, administrative organization, and management of assets, liabilities and capital.

**FINN 3226. Financial Theory and Practice. (3)** Prerequisite(s): FINN 3120. Modern financial theory and its applications, including risk theory, market equilibrium asset pricing models, efficient market theory, capital structure theory and applications (including issues surrounding financial distress and bankruptcy), dividend policy, agency problems, informational asymmetry, advanced topics in capital budgeting, and leasing.

**FINN 3255. Real Estate Principles. (3)** Prerequisite(s): FINN 3120 with grade of C or above; College of Business major; and Junior or Senior standing. An overview of the real estate industry modules, principles, and practices that enhance students' practical knowledge and skill set. Discusses key concepts of ownership, development, and management of real estate. Allows students to gain a comprehensive real estate approach with a focus on real world application.

**FINN 3261. Real Estate Finance. (3)** Prerequisite(s): FINN 3120. The fundamentals of real estate finance and investment. Topics include: real estate capital markets, mortgage markets, mortgage securitization, real estate contracts and leases, investment analysis, valuation and appraisal, return and risk considerations, and the effects of debt financing, taxation and government regulations on real estate investment.

**FINN 3265. Asset and Property Management. (3)** Prerequisite(s): FINN 3255 with grade of C or above; College of Business major; and Junior or Senior standing. An overview of the management and asset approach from the real estate profession. Students distinguish the different roles asset and property managers play in the economy. Explores issues such as lease analysis, negotiation techniques, management operations, property regulations, federal guidelines, and measuring performance that allow students to give insightful recommendations.

**FINN 3271. Principles of Risk Management and Insurance. (3)** Prerequisite(s): INFO 2130, Junior or Senior standing, business major or permission of department. A study of the different types of non-speculative risks faced by individuals and businesses and the possible methods of treating such risks. An examination of the specific application of these methods with regard to life, health, property, casualty, and liability contracts.

**FINN 3272. Life Insurance and Professional Financial Planning. (3)** Prerequisite(s): INFO 2130, Junior or Senior standing, business major, or permission of department. Pre- or Corequisite(s): ACCT 3311 or ACCT 3323. Covers the uses of life insurance, annuities, health insurance, and Social Security in the context of financial planning. Explains the

integration of social security benefits, employer-provided benefits, and individually purchased life insurance and investments into comprehensive financial plans. Students successfully completing this course should understand the need for the main techniques of financial planning in contemporary U.S. society.

**FINN 3273. Property and Liability Insurance Operations. (3)** Prerequisite(s): INFO 2130, Junior or Senior standing, business major, or permission of department. An in-depth examination of the operations of property and liability insurance companies in a dynamic business and regulatory environment. Insurer strategies and functions are examined with a focus on underwriting, actuarial activities of ratemaking and loss reserving, claims, marketing, and risk management. The impact of the effects of the global, technological, and legal environments on insurer operations are emphasized.

**FINN 3276. Employee Benefits. (3)** Prerequisite(s): INFO 2130, Junior or Senior standing, and a business major. Provides an analysis of group plans (e.g., medical, life, disability, and retirement), stock options, profit sharing plans and statutory benefits (e.g., workers' compensation and social security). Includes a review of legislation affecting these plans. Non-traditional plans (e.g., child care, flex time, and wellness programs) are also examined.

**FINN 3278. Risk Management and Insurance Sales and Negotiations. (3)** Prerequisite(s): INFO 2130 or permission of department; Junior or Senior standing; and College of Business major. Focuses on consultative sales and principled negotiations, which are key elements in achieving professional success. Consultative sales involves discovering client problems and developing solutions that provide substantial value to the client. Clients can be teammates or colleagues within the same company or external clients. Key sales skills discussed and developed are professional ethics, personal branding, networking, communication, creating client relationships, handling objections, obtaining commitment and teaching, tailoring and taking control. Negotiation skills include separating people from the problem, focusing on interests, inventing options for mutual gain and insisting on objective standards. The goal of principled negotiations is to develop a wise agreement with an amicable outcome. All of these topics are discussed and applied through class discussion, individual and team exercises, and case studies.

**FINN 3279. Advanced Topics in Risk Management. (3)** An in-depth analysis of advanced concepts in the global risk management and insurance market through discussion and experiential learning or application. Students learn how the U.S. primary, excess, and international insurance markets interact. Advanced concepts and emerging issues are covered, including surplus lines insurance, catastrophes, and issues in corporate risk management with a focus on firms with an international footprint.

**FINN 3400. Finance Internship. (3)** Prerequisite(s): Junior or Senior standing; Finance major in good standing; and permission of instructor. Provides a meaningful work experience in the field of finance. Requires a minimum of 150 hours of supervised employment, 50 hours of work per credit hour. Student is responsible for securing internship and completing internship application and approval process prior to registering for the course. Internship must be approved by instructor. Application process and course registration must be completed prior to beginning internship. All proposals are subject to departmental approval. Students may not earn internship credit for work at a current employer. May be used to meet requirements of a major elective, up to a maximum of three credit hours. *May not be repeated for credit at the same time or following any other internship for credit. Graded on a Pass/No Credit basis.*

**FINN 3500. Finance Cooperative Education Experience. (0)** Enrollment in this course is for the University cooperative education students during each semester they are working in a position. Participating students pay a course registration fee for transcript notation. Assignments must be arranged and approved in advance. The Cooperative Education Program is only open to undergraduate students; graduate level students are encouraged to contact their academic departments to inquire about academic or industrial internship options for credit. For more information, contact the University Career Center. *May be repeated. Graded on a Satisfactory/Unsatisfactory basis.*

**FINN 3800. Directed Study. (1 to 3)** Prerequisite(s): Permission of department and Junior or Senior standing. Enrollment granted only by permission of the faculty with whom the work will be performed. The student's work assignments will be designed by the student and faculty member who will oversee the project of study. The credit hours will be determined prior to enrollment and will be based on the particular project undertaken.

**FINN 4158. Student Managed Investment Fund I. (3)** Prerequisite(s): FINN 3120 and FINN 3222 with grades of C or above; and permission of instructor (students selected for the course are required to take FINN 4159). Management of an actual portfolio consisting of a portion of the University's Endowment Fund.

**FINN 4159. Student Managed Investment Fund II. (3)** Prerequisite(s): FINN 4158 with grade of C or above; and permission of instructor. Management of an actual portfolio consisting of a portion of the University's Endowment Fund.

**FINN 4160. Equity Analysis. (3)** Cross-listed Course(s): MBAD 5160. Prerequisite(s): College of Business major, and FINN 3120 or permission of department or program director. Methods and techniques for analyzing equities, focusing on three areas of analysis: fundamental, technical, and behavioral. With the practical application of course material, assignments require a fair amount of out-of-class time to complete. At the conclusion of this course, students should have a thorough understanding of fundamental, technical, and behavioral analysis, as well as stronger Excel, Bloomberg, and Oral Communication skills.

**FINN 4161. Financial Modeling. (3)** Prerequisite(s): FINN 3120. Cross-listed Course(s): FINN 5161. The objective of this course is to introduce spreadsheet techniques in the application of finance context and to help students get good preparation for a future career with Excel work. Students are learning to use Excel to accomplish financial analysis and let Excel do as much work as possible. The course covers topics in Corporate Finance and Investments. The course focuses on financial statement analysis, time value of money, security valuation, cost of capital, capital budgeting, efficient portfolios, CAPM, et al. The course covers Excel techniques including basic spreadsheet use, Excel built-in functions, Data tables, Scenario analysis, Solver, Data analysis, et al. The course requires a primary understanding of corporate finance and investments. It also needs some sophistication in statistics such as mean, standard deviation, covariance, correlation, et al.

**FINN 4162. Innovations in Financial Technology and AI. (3)** Prerequisite(s): FINN 3120; AI in Business Minor and Finance Major. An overview of fintech topics and the ways in which technology, especially data analysis and AI, is changing the landscape of financial services. Students will learn about the trends and developments in areas such as payments, lending, wealth management, and AI.

**FINN 4275. Enterprise Risk Management. (3)** Cross-listed Course(s): FINN 5275. Pre- or Corequisite(s): FINN 3271. An in-depth discussion of risk management in non-financial firms, including analysis of techniques that firms use to manage risks. Risk management strategies and how they are applied to business problems are discussed. Some of the techniques examined include self-insurance, captives, financial instruments, and retentions.

# Foreign Language Education (FLED)

**FLED 4105. Applied Content Pedagogy. (3)** Cross-listed Course(s): FLED 5105. Prerequisite(s): MDSK 2100 or SPED 2100 and EDUC 1511; MDSK 3100; MDSK 3151; MDSK 4210; MDLG 3130 or SECD 4140. Provides undergraduate teacher education candidates exposure to the continued modeling of evidence-validated practices, the rehearsal of instructional tasks, and numerous opportunities for feedback on pedagogical decision-making in Foreign Language Education. *May not be repeated for credit.*

**FLED 4200. Methods in Teaching Foreign Languages. (3)** Cross-listed Course(s): FLED 5200. Prerequisite(s): MDLG 3130 or SECD 4140; MDSK 3100; MDSK 3151; MDSK 4210; and completion of at least two 3000-level courses or equivalent in the target language, or permission of Department of Middle, Secondary, and K-12 Education. Corequisite(s): MDSK 4100L. Current trends and practices in teaching foreign and second languages in the high school, with emphasis on practical applications. Addresses state-mandated competencies. Required for licensure in the teaching of French, German, or Spanish (K-12). Includes 25 hours of field experiences.

**FLED 4201. K-8 Methods - Foreign Languages. (3)** Prerequisite(s): Completion of at least two 3000-level courses or equivalent in the target language, or permission of department of Middle, Secondary & K-12 Education. Current trends and practices in teaching foreign and second languages in the elementary school and middle school (K-8), with emphasis on practical applications. Addresses state mandated competencies. Required for licensure in the teaching of French, German, or Spanish (K-12). Includes 15 hours of field experiences.

**FLED 4469. Student Teaching/Seminar: K-12 Foreign Language. (15)** Prerequisite(s): Permission of department for admission to student teaching, including minimum score of Advanced Low on the Oral Proficiency Interview (OPI). Student teaching is a planned sequence of experiences in the student's area of specialization conducted in an approved school setting under the supervision and coordination of a university supervisor and a clinical educator. During student teaching, the student must demonstrate the competencies identified for their specific teaching field in an appropriate grade level setting. The student is assigned 15 weeks in a school setting. Includes seminars. Participating students pay a course registration fee for edTPA portfolio assessment. *Graded on a Pass/No Credit basis.*

# Francophone Studies (FRAN)

**FRAN 1502. Global Arts/Humanities: French and Francophone Cultures. (3)** This Global Theme course uses the methods and insights of the social sciences to explore the central question of what it means to be a citizen of the world. Through the study of one or more different peoples, societies or cultures across the globe, students will be able to better understand themselves as part of a complex, interconnected world. Students are introduced to critical studies of language and culture through a broad engagement with the influence and presence of French and Francophone cultures throughout the world. Course materials may draw widely from pop culture, music, cuisine, film, media, the arts, and literature. Taught in English.

**FRAN 1512. Local Arts/Humanities: French and Francophone Cultures in the U.S. (3)** This Local Theme course uses the methods and insights of the arts and humanities to explore the central question of what it means to be a member of a "local" community. Through the study of the experiences of different peoples, societies, cultural traditions, and modes of expression in communities at the city, regional, or national level, students will be able to better understand the complexity and diversity of the society in which we live. Students are introduced to critical studies of language through a broad engagement with the influence and presence of French and Francophone cultures in the United States. Course materials may draw widely from literature, history, film, linguistics, and the arts. Taught in English.

**FRAN 2050. Topics in Francophone Studies. (3)** Analysis of a selected topic related to France or to the Francophone world. Course conducted in English.

**FRAN 2200. French Civilization. (3)** Cross-listed Course(s): FREN 2209. A study of the French people, past and present, with emphasis on cross-cultural contrasts in attitudes and values. Course conducted in English.

**FRAN 3001. Advanced Topics in Francophone Studies (Economy and Society). (3)** Analysis of a selected topic related to Francophone Studies. The particular topic of the course may vary from semester to semester. *May be repeated for credit with change of topic.* Course conducted in English.

**FRAN 3002. Advanced Topics in Francophone Studies (Historical Context). (3)** Analysis of a selected topic related to Francophone Studies. The particular topic of the course may vary from semester to semester. *May be repeated for credit with change of topic.* Course conducted in English.

**FRAN 3003. Advanced Topics in Francophone Studies (Arts and Literature). (3)** Analysis of a selected topic related to Francophone Studies. The particular topic of the course may vary from semester to semester. *May be repeated for credit with change of topic.* Course conducted in English.

**FRAN 3004. Advanced Topics in Francophone Studies (Film). (3)** Analysis of a selected topic related to Francophone Studies. The particular topic of the course may vary from semester to semester. *May be repeated for credit with change of topic.* Course conducted in English.

**FRAN 3005. Advanced Topics in Francophone Studies (Philosophy and Intellectual History). (3)** Analysis of a selected topic related to Francophone Studies. The particular topic of the course may vary from semester to semester. *May be repeated for credit with change of topic.* Course conducted in English.

# French (FREN)

**FREN 1201. Elementary French I. (3)** For students with limited or no previous experience in French. First course in a two-course sequence to develop competence in culture, speaking and writing, listening and reading comprehension in French.

**FREN 1202. Elementary French II. (3)** Prerequisite(s): FREN 1201 or equivalent. Second course in a two-course sequence to develop competence in culture, speaking and writing, listening and reading comprehension in French.

**FREN 1502. Global Arts/Humanities: French and Francophone Cultures. (3)** This Global Theme course uses the methods and insights of the social sciences to explore the central question of what it means to be a citizen of the world. Through the study of one or more different peoples, societies or cultures across the globe, students will be able to better understand themselves as part of a complex, interconnected world. Students are introduced to critical studies of language and culture through a broad engagement with the influence and presence of French and Francophone cultures throughout the world. Course materials may draw widely from pop culture, music, cuisine, film, media, the arts, and literature. Taught in English.

**FREN 1512. Local Arts/Humanities: French & Francophone Cultures in the U.S. (3)** This Local Theme course uses the methods and insights of the arts and humanities to explore the central question of what it means to be a member of a "local" community. Through the study of the experiences of different peoples, societies, cultural traditions, and modes of expression in communities at the city, regional, or national level, students will be able to better understand the complexity and diversity of the society in which we live. Students are introduced to critical studies of language through a broad engagement with the influence and presence of French and Francophone cultures in the United States. Course materials may draw widely from literature, history, film, linguistics, and the arts. Taught in English.

**FREN 2050. Topics in French. (1 to 3)** Study of French language, culture, or literature. *May be repeated for credit with change of topic.*

**FREN 2200. French for Reading Knowledge. (3)** Prerequisite(s): FREN 1202 or equivalent. Review of French grammar with emphasis on developing reading skills. Taught in English. Does not count for major or minor credit.

**FREN 2201. Intermediate French I. (3)** Prerequisite(s): FREN 1202 or equivalent. Review of grammar, with reinforcement and expansion of competence in speaking, understanding, reading, and writing, in a cultural context.

**FREN 2202. Intermediate French II. (3)** Prerequisite(s): FREN 2201 or permission of department. Review of grammar, with reinforcement and expansion of competence in speaking, understanding, reading, and writing, in a cultural context.

**FREN 2209. French Civilization. (3)** Cross-listed Course(s): FRAN 2200. A study of the French people, past and present, with emphasis on cross-cultural contrasts in attitudes and values. Conducted in English; no knowledge of French required. Open to majors and non-majors for elective credit.

**FREN 3050. Topics in French. (1 to 3)** Study of French language, culture, or literature. *May be repeated for credit with change of topic.*

**FREN 3201. French Grammar and Conversation. (3)** Prerequisite(s): FREN 2202 or permission of department. Review of French grammar and guided conversation on prepared topics. Emphasis on spoken French.

**FREN 3202. French Grammar and Composition. (3)** Prerequisite(s): FREN 2202 or permission of department. Review of French grammar and guided compositions on prepared topics. Emphasis on vocabulary, idiomatic expressions, and stylistics.

**FREN 3203. Introduction to French Literature. (3)** Prerequisite(s): FREN 2202. Development of techniques for literary study through analysis of selected major works in French literature. Readings, discussions, presentations, and *explications de texte.*

**FREN 3207. French Phonetics. (3)** Prerequisite(s): FREN 2201 or permission of department. Study of the sounds of the French language, their production and representation by means of the International Phonetic Alphabet. Practice in reading and speaking with proper rhythm and intonation.

**FREN 3209. France Today. (3)** Prerequisite(s): FREN 3201 or FREN 3202, or permission of department. Contemporary France: its institutions, society, and culture.

**FREN 3210. Introduction to Business French. (3)** Prerequisite(s): FREN 2202 or permission of department. Introduction to spoken and written language of the French-speaking business world. Acquisition of and practice with general commercial terminology used in French for such functional business areas as economics, management, marketing, finance, and import-export.

**FREN 3220. Introduction to the Francophone World. (3)** Prerequisite(s): FREN 2202 or permission of department. Introduction to the literature, culture and civilization of French-speaking countries, regions and populations outside of France.

**FREN 3225. Short-Term Abroad. (3)** Prerequisite(s): Permission of instructor. Faculty-led short-term study abroad experience offered during Spring Break.

**FREN 3800. Directed Individual Study. (1 to 3)** Prerequisite(s): Permission of department; normally open only to French majors and minors. Individual work on a selected area of study. To be arranged with the instructor, generally during the preceding semester, and by special permission only. *May be repeated for credit.*

**FREN 4003. Studies in French Literature. (3)** Prerequisite(s): FREN 3201 or FREN 3202 (both recommended, and FREN 3203 is also highly

recommended), or permission of department. Study of French literature. *May be repeated for credit with change of topic.*

**FREN 4005. Studies in the French Language. (3)** Prerequisite(s): FREN 3201 or FREN 3202 (both recommended), or permission of department. Study of French language. *May be repeated for credit with change of topic.*

**FREN 4007. Studies in French Culture and Civilization. (3)** Prerequisite(s): FREN 3201 or FREN 3202 (both recommended), or permission of department. Study of French culture and civilization. *May be repeated for credit with change of topic.*

**FREN 4050. Topics in French. (1 to 3)** Prerequisite(s): Junior or Senior standing; WRDS 1103 or WRDS 1104 with a grade of C or above, or equivalent if taught in English. Study of French language, culture, or literature. May be taught in French or English. Does not count toward the major. *May be repeated for credit with change of topic.*

**FREN 4120. Advanced Business French I. (3)** Prerequisite(s): FREN 3210 or permission of department. Advanced studies in Business French, with intensive practice in speaking, listening comprehension, reading, writing, and translation in functional business areas such as economics, management, and marketing.

**FREN 4121. Advanced Business French II. (3)** Prerequisite(s): FREN 3210 or permission of department. Advanced studies in Business French, with intensive practice in speaking, listening comprehension, reading, writing, and translation in functional business areas such as marketing, finance, and import-export.

**FREN 4201. Survey of French Literature I. (3)** Prerequisite(s): FREN 3201 or FREN 3202 (both recommended). FREN 3203 also highly recommended. The major literary movements from the Middle Ages to the Enlightenment, with sample texts. Emphasis on continuity and change.

**FREN 4202. Survey of French Literature II. (3)** Prerequisite(s): FREN 3201 or FREN 3202 (both recommended). FREN 3203 and FREN 4201 also highly recommended. The major literary movements from the Enlightenment to the contemporary period, with sample texts. Emphasis on continuity and change.

**FREN 4410. Professional Internship in French. (1 to 6)** Prerequisite(s): FREN 3201 and FREN 3202, or equivalent and permission of department. Faculty-supervised field and/or research experience in a cooperating professional (e.g., business), educational, or community organization. Contents of internship based upon a contractual agreement among the student, department, and field organization. *Graded on a Pass/No Credit basis. May be repeated for credit up to 6 credit hours.*

**FREN 4800. Directed Individual Study. (1 to 3)** Prerequisite(s): Permission of department; normally open only to French majors and minors. Individual work on a selected area of study. To be arranged with the instructor, generally during the preceding semester, and by special permission only. *May be repeated for credit.*

# Geography (GEOG)

**GEOG 1101. World Regional Geography. (3)** A world regional study which emphasizes the distinctly human responses of people to various geographic situations throughout the world. The nature and development of cultural regions is studied. *May not be taken for credit and for a grade if credit has been received for GEOG 1501.*

**GEOG 1103. Spatial Thinking. (4)** An overview of spatial thinking fundamentals and how geospatial technology can be used to illustrate these notions. Spatial thinking combines: (1) concepts of space, (2) tools of representation, and (3) processes of reasoning, to better structure spatially explicit phenomena, and generate hypothesis to understand and explain those issues. Emphasizes various aspects of spatial thinking as a way of addressing spatially explicit phenomena applied to an array of disciplines.

**GEOG 1105. Introduction to Human Geography. (3)** An examination of factors which account for the locational characteristics of economic and other human activities. The locational decision-making process is examined as a means of understanding human spatial behavior.

**GEOG 1110. Introduction to Urban and Regional Planning. (3)** An overview of current and historical trends in Urban and Regional Planning. Examines how plans and planning have been used to resolve social, environmental, and economic conflicts. Topics include: planning in industrial cities, land use planning, planning and social injustice, economic development, transportation planning, planning for global sustainability. *May not be taken for credit and for a grade if credit has been received for GEOG 1511.*

**GEOG 1501. Global Social Science: Global Geography. (3)** This Global Theme course uses the methods and insights of the social sciences to explore the central question of what it means to be a citizen of the world. Through the study of one or more different peoples, societies or cultures across the globe, students will be able to better understand themselves as part of a complex, interconnected world. GEOG 1501 is an introduction to geography as a discipline as well as the perspective and tools geographers employ to better understand and address complex global conditions and issues that impact all human and physical systems. *May not be taken for credit and for a grade if credit has been received for GEOG 1101.*

**GEOG 1511. Local Social Science: Urban and Regional Planning. (3)** This Local Theme course uses the methods and insights of the social sciences to explore the central question of what it means to be a member of a "local" community. Through the study of the experiences of different peoples, cultures, and communities in our city, our region, or our nation, students will be able to better understand the complexity and diversity of the society in which we live. This course introduces students to urban planning, surveying broad planning movements, theories, and processes with a focus on the development of planning as a field and its role in past and future inequities. Students will learn how cities and regions plan for social, environmental, and economic change; mitigate negative impacts; and seek to address inequities. Additionally, students will focus on important issues in planning, and strategies for mitigating negative impacts. Students engage with such topics in the context of national and regional examples, but particularly in Charlotte, NC. *May not be taken for credit and for a grade if credit has been received for GEOG 1110.*

**GEOG 2000. Topics in Geography. (1 to 4)** Treatment of major topical or regional issues in Geography. *May be repeated for credit with change of topic.*

**GEOG 2102. Introduction to Cartographic Design. (3)** Prerequisite(s): GEOG 1103. A study of cartography and its essential processes, with particular emphasis on the map as a communication system, the effective communication of data by means of graphical symbols, map interpretation and geovisualization, and thematic map design and production techniques.

**GEOG 2103. Elements of GIScience and Technologies. (4)** The fundamental concepts of Geographic Information Science (GIS) and its application in planning, marketing, criminal justice, health, natural resources, information technology, engineering, and others. Students learn the processes to collect, organize, analyze, and display geographic data using GIS and are introduced to Global Positioning System (GPS) technologies. Students cover mapping basics including scale, projections, coordinate systems, data classification, and cartographic design. Culminates with group projects on selected topics within Environmental Sustainability.

**GEOG 2105. Introduction to Economic Geography. (3)** Examination of the spatial dimensions of economic activity, geographic organization and interaction of economic production, consumption, and exchange systems. Emphasis is placed on location-based factors and principles utilizing theoretical and empirical studies. A variety of geographic scales is examined, from the local to the global.

**GEOG 2110. Introduction to Geographic Research. (3)** Research design and resources in geographic research. Emphasis on spatial applications in summary statistics; spatial summaries, statistical hypothesis testing; sampling and estimation; association, correlation and regression.

**GEOG 2111. Social Inequality and Planning. (3) (SL)** Introduction to social, political, economic and cultural forces shaping urban communities. The role of race, class and gender relations and the processes through which community intervention occurs at the local level is explored. Emphasis is on the role of participatory planning, advocacy planning, community organizing and community development. Also explored are community building and social change by focusing on the interplay between local residents, leaders and institutions, through team projects, individual assignments and community service activities. Students participate in a community project that requires them to visit Charlotte neighborhoods several times over the course of the semester, requiring out-of-class time to visit the neighborhoods to collect data in teams of 2-4 students.

**GEOG 2121. Introduction to Development Studies. (3)** Cross-listed Course(s): GLST 2121. The history of development as a discourse and the different economic and political models that have shaped it. Historical models and contexts of development are addressed in order to understand the evolution of development practice. Different agents and institutional architectures of development are examined as are current issues of debate in global development such as: gender and microloans; climate change politics; and the impacts of migration.

**GEOG 2140. Geography of North Carolina. (3)** A survey of the cultural, economic, urban, environmental and physical landscape of North Carolina with an emphasis on understanding the complex geographical variety that exists within a dynamic Southern state. Historic, current and future geographic patterns will be explored.

**GEOG 2150. Geography of Polar Regions. (3)** Arctic and Antarctic regions, history of exploration, the physical environment and political significance.

**GEOG 2155. Geography of the U.S. and Canada. (3)** Geographic structure of the U.S. and Canada with emphasis on physical environment and patterns of human activities.

**GEOG 2160. The South. (3)** The culture, environment, population, and economy of the southeastern U.S.; emphasis on current trends and future implications.

**GEOG 2165. Patterns of World Urbanization. (3)** Introduction to cities of the world including examination of urban systems within different culture areas as well as the internal structure of different cities within the context of traditional and innovative theories of development geography.

**GEOG 2200. Introduction to Urban Studies. (3)** Cross-listed with URBS 2200. A survey course exploring the diverse perspectives and experience of North American Cities. Lectures and discussions on the development, organization, function, and meaning of urban areas, as well as the multiple and complex relationships that exist between cities and the people who live and work within them. Students who pass this course meet the requirements for the "Western Tradition" area of the LBST requirements and will not have to take an additional course to satisfy that area of General Education.

**GEOG 3000. Topics in Regional Geography. (3)** Treatment of major regional issues in geography. *May be repeated for credit with change of topic.*

**GEOG 3100. Geography of Cities. (3)** Prerequisite(s): GEOG 1511 or GEOG 2200, or permission of instructor. Integrative study of cities with emphasis on human-environment interactions, influences of place and space, and urban systems, such as land use patterns, transportation, residential patterns, and commercial activities.

**GEOG 3102. Plant Geography. (3)** Prerequisite(s): ESCI 1101 or ESCI 1501, or permission of instructor. Explores the spatial and temporal distribution and variety of plant life on earth. Distribution patterns may reflect former geologic or climatic conditions, as well as modern interactions between organisms and their environment. Fossils provide valuable information on the past ranges of plants including paleoecological information that may help explain changing vegetation patterns. Because very few biological communities escape the effects of human activities, the role humans have played in the ecology and distribution of terrestrial plants is a focus of the course. Current issues of conservation and biological diversity are also explored.

**GEOG 3105. Geography of the Global Economy. (3)** Examination of the globalization of economic activity with focus on the geographic patterns of international production, trade, and foreign direct investment, and environmental impacts of global production, as well as underlying dynamics driven by transnational corporations and nation states within a volatile technological environment.

**GEOG 3106. Sustainable Cities. (3)** Analysis of the environmental, economic and social sustainability of American cities. Emphasis placed on measuring impacts of current urbanization patterns and identifying effective, and socially palatable, modifications to urban form and policy which will make cities more sustainable.

**GEOG 3115. Urban Transportation Problems. (3)** Problems associated with moving goods, people and information in urban areas. Topics include: mass transit and pollution problems.

**GEOG 3120. Fundamentals of Geographic Information Systems. (4)** Prerequisite(s): GEOG 1103 or ESCI 2210, or permission of instructor. Development, current state-of-the-art and future trends in geographic information processing with emphasis on data gathering, storage, and retrieval, analytical capabilities and display technologies. A laboratory component includes development and completion of an applied GIS research project. Three lecture hours, one two-hour lab per week.

**GEOG 3161. Migration and Borders in a Global World. (3)** Cross-listed Course(s): GLST 3161. Even as globalization promises a world of increasing flows, borders -and their most visible manifestation as fences - are on the rise. This course focuses on the dynamics of diversifying flows of people with the multiplication of borders within and beyond countries. It explores key policy debates such as: the relationship between migration and development; increased demand for migrant workers; the upswing in migrant detention and deportation; and the Right to Freedom of Movement.

**GEOG 3162. Europe in the World. (3)** Cross-listed Course(s): GLST 3162. The shifting political, economic and cultural geographies of Europe. Addresses how current transformations in Europe influence global processes and how broader global trends translate into European societies. Topics include: the expansion and consolidation of the European Union; a 'borderless' Europe versus 'Fortress Europe'; post-socialism and post-fascism in Central and Southern Europe; economic globalization; and post-colonial immigration.

**GEOG 3170. Foundations of Sustainability. (3)** Prerequisite(s): ESCI 1501. At a time when having an interdisciplinary understanding of issues strengthens problem-solving, and collaboration, this course will introduce students to the foundations and various applications of sustainability. Students will learn about contemporary efforts towards sustainability at a local scale like the University and City of Charlotte, to global efforts. Students will be challenged to explore the benefits of and challenges to implementing sustainability. Examples of issues covered include but are not limited to sustainability in renewable energies, waste management, food systems, biodiversity, conservation and land management, geoheritage, climate change, populations and consumption, values and ideas of nature, public goods and collective action, and urban design and planning.

**GEOG 3180. Hazards and Disasters. (3)** An introduction to the study of hazards geography, drawing on concepts explored in human geography, explicitly emphasizing how social and behavioral systems (human adaptation, education, response, risk perception, risk communication) come together with physical risk to create disasters. Students learn about these complex processes through place-based case studies of risk. Further, students consider how they might minimize their own risk by making informed decisions about where they live and work.

**GEOG 3190. Biogeography. (3)** Cross-listed Course(s): ESCI 3190. Prerequisite(s): BIOL 2120 or ESCI 1101. The patterns of life across the Earth and the causes of those patterns, with an emphasis on ecological patterns and historical patterns of biodiversity. The origin of the Earth's biological diversity and methods for conserving that biodiversity is also discussed. Emphasis on student oral and written communication.

**GEOG 3200. Land Use Planning. (3)** Land use planning, with emphasis on basic planning processes, implementation techniques and strategies, and issues confronting contemporary urban and rural planning.

**GEOG 3205. City Regions and Systems. (3)** Prerequisites(s): GEOG 1511 or GEOG 2200, or permission of instructor. Integrative study of the spatial structure of cities with emphasis on land use patterns and models, transportation systems, residential concentrations, commercial activities and manufacturing zones.

**GEOG 3210. Regional Planning. (3)** Introduction to regional planning strategies and approaches developed by regional planning agencies. Urban-regional planning relationships with emphasis on techniques used in regional analysis.

**GEOG 3215. Environmental Planning. (3)** Interaction and relationships between natural and human-made elements of the environment with emphasis on planning concepts and methodologies used in contemporary environmental planning.

**GEOG 3220. Renewable Energy and Regional Energy Markets. (3)** Examination of production, consumption, and distribution of energy, including traditional sources, such as oil, coal, natural gas, and nuclear energy; and renewable sources, including hydroelectric, wind, solar, and biofuels, with special attention to regional energy resources endowments. Energy markets and models are also examined with reference to environmental impacts in both domestic and international contexts.

**GEOG 3250. World Food Problems. (3)** Magnitude, consequences, major causes and potential solutions to the world's food problems.

**GEOG 3260. Medical Geography. (3)** Traditional aspects of medical geography including disease mapping, disease ecology and statistical association and more recent social scientific topics, including disease diffusion, healthcare facilities planning and spatial behavior.

**GEOG 3280. Sustainability Field Study in the Peruvian Amazon. (3)** Prerequisite(s): Permission of instructor. This experiential learning course explores the economic, equity, and environmental issues associated with sustainable development in the Peruvian Amazon rainforest. Students travel to Peru over Spring Break and engage with local communities to discuss the context of how they measure and evaluate locally innovative sustainability practices. Students will examine and analyze the interconnections among the United Nations' sustainable development goals and make comparisons about how the goals are achieved in various physical and cultural landscapes across the globe. Registration for this course is only permitted by successful application process in the Education Abroad Office.

**GEOG 3306. Contemporary Issues in the Middle East. (3)** Examines the contemporary Middle East and the key socio-economic, cultural,

political, and environmental dynamics shaping the region and its peoples in the 21st century.

**GEOG 3500. Geography Cooperative Education Experience. (0)** Enrollment in this course is required for the department's geography cooperative education students during each semester that they are working. Participating students pay a course registration fee for transcript notation. Assignments must be arranged and approved in advance. The Cooperative Education Program is only open to undergraduate students; graduate level students are encouraged to contact their academic departments to inquire about academic or industrial internship options for credit. For more information, contact the University Career Center. *Course may be repeated. Graded on a Satisfactory/Unsatisfactory basis.*

**GEOG 4000. Topics in Geography. (3)** Prerequisite(s): Permission of instructor. An intensive study of topics in geography from such areas as urban, manufacturing, planning, retailing activity, transportation, political geography, and environmental geography. *May be repeated for credit with change of topic.*

**GEOG 4103. Computer Programming for GIS Applications. (3)** Cross-listed Course(s): GEOG 5103. Prerequisite(s): GEOG 1103 or permission of instructor. Software program development and scripting for GIS and mapping applications using high level programming languages. Emphasis on the design and implementation of geographic data structures and algorithms.

**GEOG 4108. Sport, Place, and Development. (3)** Prerequisite(s): GEOG 1105. Examination of sport and its impact on the landscape of cities and communities. Implications of sport are examined in terms of urban land use, urban social structure, markets, franchise movement and expansion, urban politics, its role in defining sense of place, and its impact on the development of communities and regions.

**GEOG 4110. GIS for Non-Majors. (3)** Examines the fundamental concepts and techniques of Geographic Information System (GIS) technology and its application to social and physical sciences. Students learn processing, collecting, organizing, displaying, and analyzing geographic data from address geocoding, GPS, CD-ROM, World Wide Web, and other sources. Emphasis placed on data preparation, analysis, and presentation. Labs introduce students to ArcGIS.

**GEOG 4131. Environmental Modeling with GIS. (4)** Prerequisite(s): GEOG 3120 or permission of instructor. Theories and practices of modeling the environment with GIS. Topics include: types of spatial modeling frameworks; GIS data sources and measurement technologies for environmental modeling; development, calibration, and validation of environmental models; 3-dimensional modeling and visualization of physical processes; and spatial analysis of human-environment interactions.

**GEOG 4132. Spatial Modeling for Social and Economical Applications. (3)** Prerequisite(s): GEOG 3120 or permission of instructor. Theories and practices of spatial modeling with social and economical applications. Topics include: overview of modeling in human geography, socioeconomic data sources, and building and evaluating spatial models. Examples of models covered in class and lab exercises include: spatial accessibility, interaction, diffusion, tipping points, segregation (simulation), geodemographic/segmentation, and Markov models (stochastic).

**GEOG 4140. Geographic Information Techniques for Community Planning. (4)** Prerequisite(s): GEOG 3120, one community planning course, and/or permission of instructor. Focuses on the connection between community planning and geographic information techniques under the general framework of planning support systems (PSS). It is designed to help students develop knowledge, skills, and experience in: (1) municipal geographic database handling; (2) land suitability and feasibility assessment; (3) landscape aesthetics assessment; (4) sketch planning; and (5) systematic approaches to planning. A real work project from the Charlotte region is conducted. A two-hour lab is required.

**GEOG 4150. Spatial Database Development with GPS and GIS. (3)** Prerequisite(s): GEOG 3120 or permission of instructor. The fundamentals of database management systems and their relevance in GIS. Emphasis placed on the effective creation, maintenance, and retrieval or data from a spatially enabled database. Topics include: relational database theory and design, entity-relationship diagrams, Structured Query Language (SQL), spatial queries, geodatabase design.

**GEOG 4155. Retail Location. (3)** Spatial attributes of retailing and related activities. Location patterns, store location research, trade area delineation and consumer spatial behavior are discussed with the goal of creating an evolutionary perspective on the industry. Methodological emphasis on data collection, manipulation, and interpretation using industry-specific software.

**GEOG 4160. The Geography of Transportation Systems. (3)** Geographical and human factors that affect the movement of goods and people from place to place. Emphasis on transportation routes and networks, commodity flow patterns, and the locational implications of freight rates.

**GEOG 4180. Web GIS. (3)** Cross-listed Course(s): GEOG 5180. Prerequisite(s): GEOG 3120. Introduction to the basic knowledge of, and advances in, Internet/Web GIS. Emphasis on the principles, methods, and applications of Web- or Internet-based GIS coupled with hands-on laboratory exercises for conducting GIS data operations, query, mapping, and spatial analysis/modeling via the Internet.

**GEOG 4200. Environmental Justice, Injustice, and Planning. (3)** Prerequisite(s): GEOG 1103 or GEOG 1511. Cross-listed Course(s): GEOG 5200. Introduction to the history of the environmental justice movement, exploring the environmental issues, policies, and government and community responses to addressing environmental injustice. Students will learn about environmental justice through empirical studies on the spatial distribution of environmental quality and health, enforcement of regulations, access to resources to respond to urban and industrial problems, and environmental decision-making processes through the lens of race and class. Course readings, videos, and lectures will analyze how communities of color, rural, and/or low-income communities, and undocumented immigrants improve environmental regulations and policies through their resistance and activism, despite their exclusion from environmental planning and decision-making processes. Lastly, students will be introduced to community and government led strategies to promote environmentally just development.

**GEOG 4209. Small Town and Community Planning. (3)** Prerequisite(s): GEOG 1511 and GEOG 2111 or permission of instructor. Explores small town population dynamics, rural-urban fringe land use dynamics, and changes in small towns' community identity and sense of place. Emphasis on the issues and techniques that typify small town planning environments. Students investigate these issues via field work and data collection at municipal scales within the Charlotte region.

**GEOG 4210. Urban Planning Methods. (3)** Prerequisite(s): GEOG 3205 or permission of instructor. Scope and methods of urban planning. Emphasis on analytical techniques, projections, and data sources used in developing comprehensive planning tasks and strategies.

**GEOG 4215. Urban Ecology. (3)** Prerequisite(s): ESCI 2222 or permission of instructor. An introduction to the emerging field of urban ecology. Explores the biological, physical, and social components of the urban ecosystem at local, regional, and global scales. Emphasis on the interplay among components and the sustainability of cities during lectures, field trips, and group discussions.

**GEOG 4216. Landscape Ecology. (3)** An introduction to landscape ecology, the study of the interplay between spatial pattern and ecological process. Lectures and in-depth group discussions focus on the fundamental and applied aspects of topics such as habitat fragmentation, animal movement in human-dominated landscapes, landscape legacies, road ecology, and landscape planning.

**GEOG 4220. Housing Policy and Planning. (3)** Prerequisite(s): GEOG 1105 and at least one of GEOG 2200, GEOG 2165, GEOG 3100, GEOG 3205, or GEOG 3215; or permission of instructor. Designed to provide students a comprehensive overview of U.S. housing policy while honing their research and analytical skills. Topics include: the evolution of housing policy, how the provision of housing impacts urban spatial patterns, and the past and present role of housing on regional economic development, land use planning, environmental planning, transportation infrastructure, community revitalization, and social capital.

**GEOG 4240. Geography of Knowledge and Information. (3)** Examination of the factors that influence the location of economic activities in the information age. Discussions and lectures explore the geographic aspects of the transition away from manufacturing to information processing as the primary mode of production. The transition is examined in terms of technology development, urban and regional development, information flows, and the location of quaternary industry.

**GEOG 4250. Food, Migration, and Place. (3)** Cross-listed Course(s): GEOG 5250. As people move in the world, food plays a central role in shaping identity, reproducing myth and ritual, and connecting diasporic communities. This mobility establishes dynamic foodways and gives rise to new food landscapes through which we can understand temporally connected sites of intense interaction. This writing intensive course unpacks these processes through investigating the dynamics of food production and consumption in a transnational world. Recognizing the centrality of culinary culture in migrant identities, this course focuses on the role of food habits, rituals, and practices in producing and sustaining shared identities and places. Students gain an understanding of these relations through engagement with case studies and literature addressing the complex spaces we inhabit in a transnational world.

**GEOG 4255. Applied Population Analysis. (3)** Population data sources; measuring population change; elementary projection and estimation techniques; spatial sampling; migration; survey design; applications in the public and private sectors.

**GEOG 4265. Transportation Analysis Methods. (3)** Prerequisite(s): Permission of department; statistics recommended. Procedures for analyzing the operation and performance of transportation systems; includes network planning models, minimum path algorithms and assignments; energy, air pollution, and activity analysis models; and research approaches, data sources, time and activity budgets, infrastructure condition and needs assessment.

**GEOG 4305. Urban Field and Research Methods. (3)** Prerequisite(s): GEOG 1511, GEOG 2200, or permission of instructor. Intensive field study of cities of the Carolinas, with specific emphasis on the Charlotte metropolitan area.

**GEOG 4310. Urban Social Geography. (3)** Prerequisite(s): GEOG 1105 and at least one of GEOG 2200, GEOG 2165, GEOG 3100, or GEOG 3205; or permission of instructor. Examines the reflexive relationship between society and urban space. Explores the intersection between urban geography and social theory, the evolution of city, community and personal spaces, and the relations and constructions of class, race, gender, and sexuality that shape and are shaped by the urban spaces in which we live and work.

**GEOG 4315. The Urban Form. (3)** Students will become familiar with the elements that structure urban form as well as the actors, principles, institutions, and other forces that shape the processes of urbanization. Students will approach city building as an iterative process that unfolds at a range of scales, analyzing the ways in which urban form has been shaped by natural settings, agricultural production, land subdivision practices, building forms, transportation networks, land use patterns, social norms, and planning theories. Examples and case studies will be drawn from cities worldwide, while student assignments and projects will focus on the city of Charlotte.

**GEOG 4340. Urban Analytics. (3)** Prerequisite(s): GEOG 3120 or permission of instructor. Cross-listed Course(s): GEOG 5340. Urban analytics is an emerging field that helps improve the understanding, management, and planning of cities by harnessing urban big data from a wide array of sources, including mobile devices, remote sensing, social media, and government records. This course is designed to introduce students to the basics of data analytics and its application in dealing with various urban challenges, such as urban sprawl, crime, air pollution, socioeconomic inequity, sustainable transportation, and public health. Hands-on practices will help students to be equipped with the knowledge and skills to collect, manage, and analyze data in urban environments to extract meaningful insights and make informed decisions that support urban planning and policymaking.

**GEOG 4400. Internship in Geography. (3-6)** Prerequisite(s): Permission of department. Research and/or work experience designed to be a logical extension of a student's academic program. The student must apply to department for an internship by submitting a proposal which specifies the type of work/research experience preferred and how the internship will complement his or her academic program. The student can receive three to six hours credit depending on the nature and extent

of the internship assignment. *May be repeated for credit with change of topic.*

**GEOG 4600. Geography Professional Development Seminar. (3)** Prerequisite(s): GEOG 2110 and Senior standing. Examination of opportunities and key issues involved in the transition from the undergraduate degree program to professional life or continued formal education at the graduate level. Design and/or completion of essential documents to facilitate the transition including resume, professional portfolio, graduate program applications, exit survey, and assessment examination.

**GEOG 4700. Black Place-Making: Introduction to Black Geographies. (3)** Prerequisite(s): GEOG 1103 or GEOG 1105. Cross-listed Course(s): AFRS 4050, HONR 3700. Black Geographies is a discipline within the critical geographies cannon that studies the social, political, cultural, economic, and ecological aspects of race in/and geography. The course encourages critical reflection on the issues, processes, intrinsic qualities, and interconnections that shape Black lives and geographies on local, national, continental, and international scales. This course introduces students to the rich body of literature and activism highlighting the characteristics, politics, and practices that shape and are shaped by Black communities, and their connections to place, self and the environment.

**GEOG 4800. Individual Study in Geography. (1 to 4)** Prerequisite(s): Permission of department must be obtained and credit hours established in advance; and, when taken for honors credit, approval of a proposal through the Honors College Application to Candidacy process the semester prior to taking the course. Tutorial study or special research problems. *May be repeated for credit.*

# Geology (GEOL)

**GEOL 1200. Physical Geology. (3)** A study of the basic geological principles and processes in the earth sciences; the earth as a planet; treatment of physical processes shaping the earth; earth materials and landforms.

**GEOL 1200L. Physical Geology Laboratory. (1)** Pre- or Corequisite(s): GEOL 1200. Experimental study and investigation of the basic geological principles and processes in earth science; minerals, rocks, earth materials, and landforms. One lab period of three hours per week. Off-campus field trip required.

*Note: Although the laboratory and lecture sections of GEOL 1200 are taught as separate courses it is recommended that students take GEOL 1200L concurrently with GEOL 1200. Students with scheduling problems or students not fulfilling the UNC Charlotte science and technology requirements may take the lecture without the laboratory. Students fulfilling the UNC Charlotte science and technology requirement must either: (a) take GEOL 1200 and GEOL 1200L concurrently or (b) take GEOL 1200L in a semester subsequent to taking GEOL 1200.*

**GEOL 1210. Earth History. (3)** Prerequisite(s): GEOL 1200 and GEOL 1200L. The origin and evolution of the earth's major features: the beginnings and changes of the earth's continents, atmosphere, oceans, and life forms, set in the vast context of geologic time. Three hours of lecture.

**GEOL 1210L. Earth History Lab. (1)** Prerequisite(s): GEOL 1200 and GEOL 1200L. Pre- or Corequisite(s): GEOL 1210. Learn basic techniques used by geologists to interpret the history of life, changing surface environments and habitats, plate tectonic movement, mountain building events, and climate changes. Hands-on investigation of rocks, fossils, geologic maps, and more. One lab period of three hours per week. Off campus field trip required.

**GEOL 2020. The Planets. (3)** Spacecraft exploration over the past 50 years has revealed the diversity and complexity of the Earth's neighbors in space. This course is designed to explore the varied surface landscapes of planets and moons in the solar system and to understand the processes that created them. Topics for discussion will include the origin of the solar system, comparisons among the planetary bodies, and the processes which modify their surfaces (tectonics, volcanism, impact cratering, weather and climate, glaciations, and other processes). The spacecraft and sensors used to study planetary bodies will also be discussed.

**GEOL 3000. Selected Topics in Geology. (1 to 4)** Prerequisite(s): GEOL 1200 and GEOL 1200L; or permission of instructor. Treatment of specific topics selected from one of the fields of geology. *May be repeated for credit with change of topic.*

**GEOL 3105. Mineral Resources. (3)** Prerequisite(s): GEOL 1200. An overview of the geologic processes responsible for forming metallic and fossil fuel resources as well as common extraction and waste disposal methods. Economic, environmental and social effects of mineral resource consumption are also examined. Three hours of lecture per week.

**GEOL 3115. Mineralogy. (4)** Prerequisite(s): GEOL 1200 and GEOL 1200L. Pre- or Corequisite(s): CHEM 1251 and CHEM 1251L, or permission of instructor. An introduction to the methods used to identify minerals based on physical and optical properties with a focus on rock-forming and economic minerals. Three hours of lecture and one three-hour lab per week.

**GEOL 3124. Sedimentology. (4)** Prerequisite(s): GEOL 1210, GEOL 1210L, and GEOL 3115; or permission of instructor. Examination of sedimentary rock features and compositions as related to origin, dispersion, deposition, diagenesis, classification and general distribution of sedimentary materials. Three hours of lecture and one three-hour lab per week.

**GEOL 3130. Structural Geology. (4)** Prerequisite(s): GEOL 3115 or permission of instructor. A systematic examination of the structures and processes of rock deformation. Three lecture hours, one three-hour lab per week.

**GEOL 3140. Paleontology. (3)** Prerequisite(s): GEOL 1200, GEOL 1200L, GEOL 1210, and GEOL 1210L; or permission of instructor. Nature of fossils, analysis of growth and variation in fossil assemblages, reconstruction of the modes of life of extinct organisms, paleobiogeography, biostratigraphy, and the fossil record of evolutionary pattern and processes.

**GEOL 3190. Environmental Geology. (3)** Prerequisite(s): GEOL 1200 and GEOL 1200L. Aspects of geology with direct or indirect impact on

society. Topics include: slope stability, earthquake hazards, solid waste disposal, flooding, ground water problems, soil loss, sediment pollution, watershed dynamics, water and soil pollution, and radioactive waste disposal.

**GEOL 3190L. Environmental Geology Laboratory. (1)** Pre- or Corequisite(s): GEOL 3190. Investigation of the causes, consequences, and mitigation of natural hazards and disasters. One three-hour lab per week.

**GEOL 4000. Selected Topics in Geology. (1 to 4)** Prerequisite(s): ESCI 1101, ESCI 1101L, GEOL 1200, and GEOL 1200L; or permission of instructor. In-depth treatment of specific topics selected from one of the fields of geology. *May be repeated for credit with change of topic.*

**GEOL 4100. Igneous and Metamorphic Petrology. (4)** Prerequisite(s): GEOL 3115. Classification, mineralogy and chemical properties of igneous and metamorphic rocks including the tectonic processes by which they formed. Lab emphasizes hand specimen and petrographic description and interpretation of rocks in thin sections.

**GEOL 4105. Geomorphology. (4)** Cross-listed Course(s): GEOL 5105. Prerequisite(s): ESCI 1101, GEOL 1200, and GEOL 1200L. Discusses surficial processes and landform development as controlled by climate, tectonics, rock characteristics and time. An emphasis is placed on field-based analyses of weathering, erosion, mass wasting (landslides and rock falls), and surface water processes (flooding and floodplains), and how climate change and tectonics may affect them in landscape development.

**GEOL 4110. Stratigraphy. (4)** Prerequisite(s): GEOL 1210, GEOL 1210L, and GEOL 3124; or permission of instructor. Vertical and horizontal relationships of layered earth materials as a key to understanding basin history, past depositional environments, and their transformation through time. Three lecture hours, three lab hours per week.

**GEOL 4115. Applied Geophysics. (4)** Cross-listed Course(s): GEOL 5115. Prerequisite(s): GEOL 1200 or permission of instructor. Instrumental analysis of Earth's geophysical parameters. Study of human-induced seismic and electrical signals, and natural magnetic and gravitational fields for the purposes of locating faults, ore bodies, ground water, and geotechnical or archaeological targets. Three hours of lecture and one three-hour lab per week.

**GEOL 4130. Optical Mineralogy. (4)** Prerequisite(s): GEOL 3115. Light optics theory, the behavior of plane polarized light in a solid medium. The laboratory emphasizes the use of petrographic microscope oil immersion techniques and identification of the common rock forming minerals. Three hours of lecture and one three-hour lab per week.

**GEOL 4135. Tectonics. (4)** Prerequisite(s): GEOL 3130 or permission of instructor. A systematic examination of the evolution and dynamics of the earth from the perspective of plate tectonics theory. Three lecture hours, and one three-hour lab per week.

**GEOL 4140. Coastal Geology. (3)** Prerequisite(s): GEOL 1200 and GEOL 1210; or permission of instructor. Examination of coastal environments, sediments, and wave-related processes in the present and geologic past. Major topics considered include barrier-island and salt-marsh development, sea-level fluctuations, and the relationship between human development and natural hazards. Three lecture hours per week and one two-day field trip.

**GEOL 4145. Hydrogeology. (4)** Prerequisite(s): GEOL 1200 and GEOL 1200L or ESCI 1101 and ESCI 1101L; CHEM 1251, and CHEM 1251L; or permission of instructor. Fundamentals of physical and chemical groundwater hydrology. Principles of flow, transport, and chemical reactions in aquifers and the vadose zone, including groundwater-surface water interactions. Three hours of lecture and three hours of lab per week, with occasional field trips.

**GEOL 4165. Aqueous and Environmental Geochemistry. (3)** Prerequisite(s): CHEM 1251, CHEM 1251L, CHEM 1252, CHEM 1252L, GEOL 1200, and GEOL 1200L; or permission of instructor. Water-rock interaction and processes controlling the chemical composition of natural waters (streams, lakes, and groundwater). Topics include: the carbonate system, mineral precipitation/dissolution, redox reactions, and metal speciation.

**GEOL 4175. Geochemistry. (3)** Prerequisite(s): GEOL 1200, GEOL 1200L, CHEM 1251, and CHEM 1251L; or permission of instructor. Geochemical survey of origin, evolution, and present composition of the Earth.

**GEOL 4310. Applied Soil Science. (4)** Prerequisite(s): ESCI 4210 or permission of instructor. Students read and discuss current literature pertaining to the application of soils to various fields of research such as surficial processes, active tectonics, ecology, stratigraphy, archaeology, and environmental assessment. Topics covered will vary depending on the interests of the students. Students will create and execute a semester-long soils-based field or laboratory research project of their choosing. Three hours seminar, three hours field or lab each week.

**GEOL 4400. Internship in Geology. (3-6)** Prerequisite(s): Permission of department. Research and/or work experience designed to be a logical extension of a student's academic program. Students must apply to the department for an internship by submitting a proposal which specifies the type of work/research experience preferred and how the internship will complement his or her academic program. Students may receive three to six hours credit depending on the nature and extent of the internship assignment. *May be repeated for credit with change of topic.*

**GEOL 4800. Individual Study in Geology. (1 to 4)** Prerequisite(s): Permission of department and credit hours established in advance; and, when taken for honors credit, approval of a proposal through the Honors College Application to Candidacy process the semester prior to taking the course. Tutorial study or special research problems. *May be repeated for credit with change of topic.*

# German (GERM)

**GERM 1201. Elementary German I. (3)** For students with limited or no previous experience in German. First course in a four-course sequence to develop competence in culture, speaking and writing, listening and reading comprehension in German.

**GERM 1202. Elementary German II. (3)** Prerequisite(s): GERM 1201 or permission of department. Second course in a four-course sequence to

develop competence in culture, speaking and writing, listening and reading comprehension in German.

**GERM 1502. Global Arts/Humanities: German and German-Speaking Cultures. (3)** This Global Theme course uses the methods and insights of the social sciences to explore the central question of what it means to be a citizen of the world. Through the study of one or more different peoples, societies or cultures across the globe, students will be able to better understand themselves as part of a complex, interconnected world. Students are introduced to critical studies of language and culture through a broad engagement with the influence and presence of German and German-speaking cultures throughout the world. Course materials may draw widely from pop culture, music, film, media, the arts, and literature. Taught in English.

**GERM 2201. Intermediate German I. (3)** Prerequisite(s): GERM 1202 or permission of department. Third course in a four-course sequence to develop competence in culture, speaking and writing, listening and reading comprehension in German.

**GERM 2202. Intermediate German II. (3)** Prerequisite(s): GERM 2201 or permission of department. Fourth course in a four-course sequence to develop competence in culture, speaking and writing, listening and reading comprehension in German.

**GERM 3050. Topics in German Culture (English). (3)** Study of topics in German culture. Conducted in English. *May be repeated for credit with change of topic.*

**GERM 3051. Topics in German Culture (German). (3)** Prerequisite(s): GERM 2201, GERM 2202, GERM 3201, and GERM 3202; or permission of department. Study of topics in German culture. Conducted in German. *May be repeated for credit with change of topic.*

**GERM 3201. Advanced German Language and Culture I. (3)** Prerequisite(s): GERM 2202 or permission of department. Review of German grammar, oral, and written work in the language through the study of culture and film. Conducted in German.

**GERM 3202. Advanced German Language and Culture II. (3)** Prerequisite(s): GERM 2202 or permission of department. Further review of German grammar, oral, and written work in the language through the study of culture and film. Conducted in German.

**GERM 3225. Short-Term Abroad. (3)** Prerequisite(s): Permission of instructor. Faculty-led short-term study abroad experience offered during Spring Break.

**GERM 3650. The Holocaust in German Literature and Film. (3)** This course honors and is taught in memory of Dr. Susan Cernyak-Spatz who created this course. She survived the Holocaust in several camps, among them Auschwitz-Birkenau. Through the lens of German literature and film, students examine the Holocaust with a focus on historical, moral, and aesthetic issues in its representation. Conducted in English; no knowledge of German required.

**GERM 3660. Survey of German Film. (3)** Introduction to major movements in German film history. Conducted in English.

**GERM 3670. Seminar: German-American Culture for Business and Engineering I (English). (3)** Introduction to German-American business culture taking into consideration the world of engineering. Conducted in English.

**GERM 3680. Seminar: German-American Culture for Business and Engineering II (English). (3)** Personalized study of German-American business culture taking into consideration the world of engineering. Conducted in English.

**GERM 3690. Seminar: Career Planning for the German-American Business World. (3)** Study of the German-American business world with emphasis on career planning. Conducted in English.

**GERM 4051. Topics in German Culture. (1 to 3)** Prerequisite(s): GERM 2201, GERM 2202, GERM 3201, and GERM 3202; or permission of department. Advanced study in German culture. Conducted in German. *May be repeated for credit with change of topic.*

**GERM 4061. Topics in German Language. (1 to 3)** Prerequisite(s): GERM 2201, GERM 2202, GERM 3201, and GERM 3202; or permission of department. Advanced study in German Language. Conducted in German. *May be repeated for credit with change of topic.*

**GERM 4410. Professional Internship in German. (3)** Pre- or Corequisite(s): GERM 2201, GERM 2202, GERM 3201, and GERM 3202; or permission of department. Faculty-supervised field and/or research experience in a cooperating professional (e.g., business) or community organization. Contents of internship based upon a contractual agreement among the student, department, and business or community organization. *May be repeated for credit.*

**GERM 4661. Advanced Seminar in Business German I. (3)** Prerequisite(s): GERM 2201, GERM 2202, GERM 3201, and GERM 3202; or permission of department. Advanced studies in Business German, intensive practice in written business communication and introduction to German economic and business life. Conducted in German.

**GERM 4671. Advanced Seminar in Business German II. (3)** Prerequisite(s): GERM 2201, GERM 2202, GERM 3201, and GERM 3202; or permission of department. Advanced studies in Business German, intensive practice in oral business communication and advanced studies in German economic and business life. Conducted in German.

**GERM 4800. Directed Individual Study. (1 to 3)** Prerequisite(s): Permission of department. Individual work on a selected area of study, arranged with the instructor and by special permission only. *May be repeated for credit.*

# Global Studies (GLST)

**GLST 1101. Introduction to International Studies. (3)** An introductory, interdisciplinary survey of the field of international studies. Attention will focus on the economic, geo-political and socio-cultural issues affecting relationships in an increasingly interdependent global system. *May not*

*be taken for credit and for a grade if credit has been received for GLST 1501.*

**GLST 1501. Global Social Science: Globalization and Interdependence. (3)** This Global Theme course uses the methods and insights of the social sciences to explore the central question of what it means to be a citizen of the world. Through the study of one or more different peoples, societies, or cultures across the globe, students will be able to better understand themselves as part of a complex, interconnected world. Students receive an interdisciplinary introduction to our increasingly interdependent global system, focusing on the technological, economic, geo-political, and sociocultural factors that have caused many barriers between nations, society, and people to fall where others have risen. *May not be taken for credit and for a grade if credit has been received for GLST 1101.*

**GLST 2100. Introduction to Holocaust, Genocide, and Human Rights Studies. (3)** Cross-listed Course(s): HGHR 2100. Examines the Nazi Holocaust and its origins in Western thought and practice. Analyzes the psychological, cultural, and political roots of other genocides and forms of mass violence. Explores modern concepts of human rights and the role of human rights activism.

**GLST 2101. Introduction to African Studies. (3)** Cross-listed Course(s): HIST 2211 and AFRS 2221. A survey of major developments in 19th and 20th century Sub-Saharan Africa, with emphasis on the European conquest, the colonial period, and the triumph of modern African nationalism.

**GLST 2112. Problems in Globalization. (3)** Prerequisite(s): GLST 1501; International Studies Majors and Minors Only. Permit Required. An examination of the paradoxes of contemporary globalization. Through lectures, discussions, and student presentations, we study the cultural, economic, social and political impact of globalization. We explore how scholars have defined globalization and consider the mechanisms and agents of change. We examine different forms of global governance and if there is an emerging global culture. Finally, we investigate how the international community addresses problems such as poverty, refugee resettlement, immigration, human trafficking, terrorism, and climate change.

**GLST 2121. Introduction to Development Studies. (3)** Cross-listed Course(s): GEOG 2121. The history of development as a discourse and the different economic and political models that have shaped it. Historical models and contexts of development are addressed in order to understand the evolution of development practice. Different agents and institutional architectures of development are examined as are current issues of debate in global development such as: gender and microloans; climate change politics; and the impacts of migration.

**GLST 2131. Introduction to Peace and Conflict Studies. (3)** Cross-listed Course(s): ANTH 2131. An introduction to the concentration in Peace and Conflict Studies for the Global Studies Major, and explores the causes and dynamics of conflict as well as strategies for building and sustaining peace in diverse cultural and political contexts. Students will examine theories of conflict resolution, peacebuilding, and reconciliation through case studies, role-playing, and critical analysis. The course aims to equip students with tools to analyze conflict and contribute to efforts toward justice, nonviolence, and sustainable peace.

**GLST 2141. Introduction to Global Culture and Identity. (3)** Introduction to concepts fundamental to understanding the complex interplay of culture and identity in the age of globalization. We will spend time defining "culture" and its critical components, and explore how cultures interact, evolve, and, at times, come into conflict. The course will also offer a cross-cultural examination of the role of different forms of identity, including race, ethnicity, gender, nationalism, and class in the global system.

**GLST 2201. Introduction to Asian Studies. (3)** Cross-listed Course(s): HIST 2201. Focus on the rise of modern Asia from the period just prior to the armed intervention of Western European nations. Emphasis will be placed on the impact of imperialism, colonialism, and the rise of Asian nationalism on Asian societies.

**GLST 2301. Introduction to European Studies. (3)** Cross-listed Course(s): HIST 1502. European history from the Age of Absolutism to the present.

**GLST 2401. Introduction to Latin American Studies. (3)** Cross-listed Course(s): HIST 2207. A survey of Latin American history from 1826 to the present with emphasis on the economy and society. Special attention to twentieth-century revolutions and the role of the United States in Latin America.

**GLST 3000. Topics in International Studies. (1 to 3)** Analysis of a selected topic related to international studies. The particular topic of the course may vary from semester to semester. *May be repeated for credit with change of topic.*

**GLST 3001. Topics In Development and Sustainability Studies. (3)** Analysis of a selected topic related to Development and Sustainability Studies. *May be repeated for credit with change of topic.*

**GLST 3002. Topics in Holocaust, Genocide, and Human Rights Studies. (3)** Analysis of a selected topic related to Holocaust, Genocide, and Human Rights Studies. *May be repeated for credit with change of topic.*

**GLST 3003. Topics in Peace and Conflict Studies. (3)** Analysis of a selected topic related to Peace and Conflict Studies. *May be repeated for credit with a change of topic.*

**GLST 3004. Topics in European Studies. (3)** Analysis of a selected topic related to European Studies. *May be repeated for credit with change of topic.*

**GLST 3005. Topics in Asian Studies. (3)** Analysis of a selected topic related to Asian Studies. *May be repeated for credit with change of topic.*

**GLST 3006. Topics in Global Culture and Identity. (3)** Analysis of a selected topic related to Global Culture and Identity Studies.

**GLST 3111. Politics and Culture in Literature. (3)** An exploration of different types of political systems across the world and the ways in which the cultures and values of those systems are reflected in literature. The relationship between politics and literature will be examined with particular reference to such topics as human rights, gender roles and war. The political systems selected for consideration will be representative of different geographic regions and philosophies.

**GLST 3112. Globalization and Culture. (3)** Cross-listed Course(s): ANTH 3112. Explores the relationship between processes of globalization and cultural change, considering the breakdown of the connection between lived cultural experience and territorial location. Of special interest are issues of cultural homogenization, cultural hybridization, and emergent cultural identities brought about by the flows of people, ideas, and objects in the contemporary world.

**GLST 3114. Cultures of the Caribbean. (3)** Cross-listed Course(s): ANTH 2117 and LTAM 2117. An introduction to the peoples and societies of the Caribbean with special emphasis on the effects of colonialism, the plantation society, and the struggle for independence. Topics include: the nature of race, color, caste, and class differences in the region; the past and current effects of transformations in the international political economy; the implications of movements of populations to, within, and out of the area; and, the complexities of identity formation in colonial and post-colonial states.

**GLST 3116. Cultures and Conflicts. (3)** Considers historical ties, geographical inter-connections and economic relationships that underlie contemporary issues involving culture and conflict. Discusses issues of race, class, gender, religion, nationality and citizenship among variously situated population groups and the complicated issues that arise both in the international arena and inside today's multicultural societies.

**GLST 3117. Narratives and Conflicts. (3)** Cross-listed Course(s): ANTH 3117. In conflict situations, competing interpretations of the past can become part of the struggle itself as each side vies for recognition of its version of events. This course focuses on the role these stories play in the historical development of conflicts and the effects they have on efforts to resolve them. It also focuses initially on the role of narratives in the Israeli-Palestinian conflict. Students have the opportunity to explore other cases, including Northern Ireland, Bosnia, and South Africa.

**GLST 3118. Thinking Globally, Reading Deeply: Earth Matters. (3)** Provides a close reading of a contemporary work of fiction to generate inquiry into matters of environmental humanities. Students are encouraged to investigate further those issues that they find intriguing. The reading deals with issues ranging from migration and making a living, to the human connection with the natural environment. Often, in Global Studies, the focus is on globalization in terms of the economy or political relationships. This course shifts that focus to also consider what is at stake for humans living on a planet with dwindling natural resources, rising temperatures, and sea levels.

**GLST 3119. Human Rights and Conflict. (3**) Cross-listed Course(s): POLS 3030. Introduces the concept of human rights, which have become the dominant normative discourse in global politics. One of the most important ideas of our age is the notion that all people have inalienable rights. Yet, human rights is also a field where hugely controversial debates play out. What are human rights? Who should have rights? Which rights are most important? Are rights universal? What counts as a violation? Should states promote human rights even against their own narrow self-interests? Are some cultures fundamentally opposed to individual rights? What is the link between human rights, conflict, and peace? This course considers those debates, as well as others.

**GLST 3121. Gender and Globalization. (3)** Cross-listed Course(s): WGST 2170. Examines how globalization interacts with and influences gender roles around the world. Topics include: the effect of globalization on the gendered divisions of power, violence, labor, and resources.

**GLST 3122. Transnational Feminisms. (3)** Cross-listed Course(s): WGST 4050. Explores the global formations and operations of feminist resistances and solidarities in the contemporary world. Examines the ways in which women around the globe collectively and creatively respond to intersecting systems of domination and build alliances across differences, divides, and borders to intervene in regimes of oppression and exploitation. By emphasizing transnational interconnectivities among individuals, discourses, institutions, nations, cultures, and histories, the course takes an intersectional and interdisciplinary approach to the critical study of cross-border feminist politics.

**GLST 3123. Global Masculinities. (3)** Cross-listed Course(s): WGST 3050. By integrating cultural, economic, political, and experiential perspectives, this interdisciplinary course explores the social construction of masculinities and its intersections with other systems of inequality such as race, class, sexuality, ability, religion, and nationality in the transnational context of North America. The course examines the historically situated configurations and transformations of masculinities primarily within the U.S. However, an overall global approach will be pursued to reveal the cross-border linkages between configurations of masculinities as spatial and temporal projects and processes. In other words, while it is impossible to think about men and masculinities as a single constituency or to cover all geographic areas of the world with their cultural and political specificities, we will explore the links between the local and global, the past and present, and across cultures in our analysis of masculinities in North America.

**GLST 3124. Solidarity Across Borders. (3)** Cross-listed Course(s): WGST 3050. A comparative and relational examination of geographical and cultural borders and borderlands. Conceiving borders simultaneously as literal and figurative, as visible and invisible, as transgressive and oppressive (that is, as paradoxical spaces of connection and separation), the course explores transnational travels of goods, bodies, ideas, and texts and the impact of such cross-border flows and exchanges in the making of justice-oriented global relationalities and solidarities. Rather than being a comprehensive survey course, Solidarity Across Borders examines specific cases of border crossings and translational flows to uncover how colonialisms, capitalisms, nationalisms, militarisms, and heteropatriarchies intersectionally shape global border regimes and how we resist the violent and oppressive operations of those regimes in service of global justice for all. In doing so, the course allows us to devise particular strategies to occupy and cross borders to form global alliances to make the world a more just, equal, safe, and joyful place for all living beings.

**GLST 3125. Food and Globalization. (3)** Cross-listed Course(s): ANTH 3125. Explores the relationship of the modern food system to larger complex economic, political, and cultural processes. Considers how increasing global interaction and interdependence has transformed how we grow, distribute, and consume food. Topics include: the development of the agro-industrial complex; the formation of new food preferences, eating practices, and taste publics; and, the emergence of alternative fair trade, organic, local, and slow food movements.

**GLST 3127. Global Media. (3)** Cross-listed Course(s): COMM 3127. Examines the theories and practices of globalization as related to mediated communication and the operation of global media, its

consumption and impact. Specific issues studied include global media conglomeration, global media law, media systems, and international development.

**GLST 3128. Belonging: People, Place, Displacement. (3)** Cross-listed Course(s): ANTH 3020. In our contemporary globalized world, we often think of people as mobile, moving easily from place to place to study, or work, or to improve their living conditions. But this de-territorialized view of humanity belies the sense of belonging people feel to particular places and how place and culture are deeply intertwined. This course is concerned with the experience of belonging to or in a particular place, territory, land, or landscape, what happens when people are excluded or displaced. It considers the relationship between people, place, and collective identity. How should we understand the meanings of nationalism and citizenship? What do the terms indigeneity and diaspora mean? How are senses of belonging created, maintained, and sometimes disrupted through migration or involuntary dispersion? We will consider cases of migrants and refugees, including climate refugees, and investigate the varieties of reactions to such movement, including the global rise of ethnonationalist movements.

**GLST 3129. Global Racisms. (3)** Cross-listed Course(s): ANTH 3020, AFRS 3050. We often hear that race is a social construct and that racism is structural. This course considers what those terms mean in a global historical context. We will investigate how racism is related to global capitalism, the world system, and contemporary global health and environmental crises.

**GLST 3131. Diplomacy in a Changing World. (3)** Cross-listed Course(s): POLS 3159. Diplomacy, a means to resolve disputes between sovereign states short of war, is analyzed through case studies drawn from historical context and through a survey of contemporary crises. The American diplomatic process is also reviewed with particular attention to how policy is shaped, how an embassy functions, and how Americans train for the professional diplomatic service.

**GLST 3132. Peacebuilding in Divided Societies. (3)** Cross-listed Course(s): POLS 3030. Deepens students' understanding of the theoretical foundations and practices of peacebuilding by comparing it to other approaches to conflict, such as conflict management, settlement, prevention, resolution, and transformation. Explores the various approaches and strategies of peacebuilding that have been applied in the context of deep-rooted conflicts and divided societies and highlights the challenges in transitioning to sustainable peace after decades of violent conflict. This is done by critically examining several case studies throughout the semester.

**GLST 3133. Post-Conflict Reconciliation and Justice. (3)** Cross-listed Course(s): POLS 3030. Questions of reconciliation and justice are at the heart of peacebuilding in divided societies and post-conflict settings. This course exposes students to the complexities of reconciliation processes and helps students think analytically about the challenges of balancing the need for justice and peace in societies which have been devastated by violence. The complexity and multidimensional aspects of the relationship between reconciliation and justice are explored, as well as how societies go about resolving/addressing the tensions between the demand for reconciliation, peace, and justice in a post-conflict context.

**GLST 3134. Ethnic Conflict in a Changing World. (3)** Cross-listed Course(s): POLS 3030. Ethnic conflict is one of the most prevalent types of conflict in the modern world, and the most common form of conflict in the post-Cold War era. Throughout the years, ethnic conflict has claimed lives of millions, has caused many to become refugees, and has destroyed countries, political systems and economies. Many recent events around the world remind us that ethnic conflict is likely to continue to shape international politics. But what are the underlying causes of ethnic disputes? Why do some conflicts remain in the form of peaceful negotiations and some turn violent? How does ethnic conflict spread across regions, how can it be managed and what are the possible solutions? This course will introduce you to the study of ethnic conflict, provide an overview of major ethnic conflicts around the world, and address the questions above.

**GLST 3135. Origins of Globalization. (3)** Cross-listed Course(s): ANTH 3135. An analysis of European colonial expansion from the 16th through the 19th centuries, emphasizing the creation of the first global systems of political, economic, and cultural interaction that form the foundation of modern globalization. Using a cross-cultural approach, the course explores the competition and conflict among the great powers and the effects of conquest and colonialism on the indigenous peoples of Africa, Asia, and the Americas.

**GLST 3136. Globalization and Resistance. (3)** Cross-listed Course(s): ANTH 3136. A cross-cultural analysis of changing patterns of resistance by indigenous peoples to the political, cultural and economic effects of globalization from the colonial period to the present. Using case studies from the Americas, Africa, and Asia, the course examines a variety of indigenous resistance strategies and movements and the socio-political dynamics that have driven them and impacted on their effectiveness.

**GLST 3137. International Human Rights. (3)** Cross-listed Course(s): POLS 3137. Introduces students to the historical foundations and current practices of the international human rights regime. Discussions center primarily on three topics: 1) the conceptual and historical origins of the international regime designed to protect human rights, 2) patterns of and explanations for human rights violations over time and space, and 3) potential international and domestic solutions to protect human rights. During the discussion of these topics, students learn about contemporary issues in human rights, as well as how theory applies to current events and individual cases.

**GLST 3138. Environment and Societies. (3)** An understanding of life today and socio-environmental processes and interactions. We will examine processes such as colonization, globalization, urbanization, ethnic, racial, and gender discrimination, issues surrounding healthcare, social welfare, social movements, revolutions, and how they affect and shape our own lives, society, and the environment. This course will include cross-cultural, comparative materials into all content of the course. We live in a global economy/society, and we will grapple with understanding how we as individuals fit into larger socio-environmental processes. This course also aims to introduce students to sociological thinking and how it contributes to a growing interdisciplinary dialogue, which seeks to both understand problems and to find solutions to those problems. As such, we will deal with both theory (a system of ideas intended to explain something) and praxis (practice or conduct).

**GLST 3139. Global Environmental Justice. (3)** What is environmental justice and how does it relate to environmentalism? This course provides an overview of environmental justice, examining its history and present, with both a local and global focus. This class will also teach you how to

use your "sociological imagination" to understand society, your place in it, and various social and environmental problems. In this course we will explore questions related to understanding what is environmental justice, key debates in the area, and if there is a global environmental justice movement. We will examine this in the context of the history of world economic and political systems. Additionally, we will consider the work of scholars and individuals who live outside of the United States, and we will examine social movements that are fighting for environmental justice and also resisting or critiquing certain aspects of globalization.

**GLST 3151. International Political Economy. (3)** Cross-listed Course(s): POLS 3151. An analysis of the political dynamics of economic relationships among countries. Attention is focused on the political aspects of monetary, trade and investment relationships, and the difficulties involved in coordinating policy and maintaining effective international management.

**GLST 3155. Global Citizenship. (3)** Cross-listed Course(s): POLS 3030. Explores the question of what it means to be a citizen in today's increasingly interconnected world. Focuses on the concept of global citizenship and examines its usefulness as a guide to action. Following a review of some of the key attributes of citizenship in its broadest terms, some of the ways these notions have been challenged by the considerable political, economic, social, and cultural transformations of our world are examined.

**GLST 3161. Migration and Borders in a Global World. (3)** Cross-listed Course(s): GEOG 3161. Even as globalization promises a world of increasing flows, borders -and their most visible manifestation as fences - are on the rise. This course focuses on the dynamics of diversifying flows of people with the multiplication of borders within and beyond countries. It explores key policy debates such as: the relationship between migration and development; increased demand for migrant workers; the upswing in migrant detention and deportation; and the Right to Freedom of Movement.

**GLST 3162. Europe in the World. (3)** Cross-listed Course(s): GEOG 3162. The shifting political, economic and cultural geographies of Europe. Addresses how current transformations in Europe influence global processes and how broader global trends translate into European societies. Topics include: the expansion and consolidation of the European Union; a 'borderless' Europe versus 'Fortress Europe'; post-socialism and post-fascism in Central and Southern Europe; economic globalization; and post-colonial immigration.

**GLST 3171. Comparative Genocide. (3)** Cross-listed Course(s): HIST 3171. The term "genocide" is often used imprecisely in popular and political discourse. Through examinations of several case studies – the Armenian genocide, the Holocaust, and post-war genocides in Cambodia, Guatemala, and Rwanda, among others - this course explores the roots and the psychological, cultural, and political impacts of genocide and other forms of mass violence.

**GLST 3172. Political Repression and Rebellion in the Contemporary World. (3)** Cross-listed Course(s): HIST 3172. Modern history has given rise to various forms of repression, but no system has succeeded in extinguishing the desire for greater freedom. This course examines scholarly and popular conceptions of rebellion and other forms of collective defiance. Through the use of memoirs, contemporary accounts, and other texts, it analyzes a variety of case studies of resistance from across the world.

**GLST 3173. Resistance During the Holocaust. (3)** Cross-listed Course(s): HGHR 3110. Modern history has given rise to various forms of repression, but no system -- not even Nazi Germany -- succeeded in extinguishing the desire for greater freedom. The subjects and victims of the Third Reich devised varied, creative ways to resist Nazi tyranny, preserve pre-Nazi political and social traditions, and assert their dignity. Through memoirs and other readings, the range of responses and survival strategies of Jews, dissident Germans, and peoples of Poland, France, and other German-occupied lands are explored.

**GLST 3174. The U.S.-Vietnam War and the Global Upheaval of the 1960s-1970s. (3)** Cross-listed Course(s): HGHR 3220 and HIST 3003. The U.S.-Vietnam War continues to haunt the political and cultural landscape of both nations. Yet the war remains poorly understood and remembered - in both lands. This course stresses the diversity of American experiences, as well as the breadth of Vietnamese experiences and perspectives. It provides a multidisciplinary, multicultural, global overview of the war's history and context, examining imperialism, racism, and anti-colonialism; socialism and Stalinism; and the global youth revolt that was provoked in large part by the war. Cultural texts (e.g., music, literature, film), memoirs, and other primary and secondary sources are examined.

**GLST 3400. International Studies Internship. (1 to 3)** Prerequisite(s): Permission of director. Practical experience and/or training related to the field of international studies. A minimum of 45 hours per credit.

**GLST 3800. Independent Study. (1 to 3)** Prerequisite(s): Permission of director. Supervised investigation of an issue related to the field of international studies that is of special interest to the student and that is not covered in existing or available courses. *May be repeated with change of topic.*

**GLST 4601. International Studies Seminar. (3)** Prerequisite(s): Advanced Junior or Senior status. A capstone seminar involving in-depth research and analysis of topics of common interest to all majors, yet specific to each student's area studies concentration.

**GLST 4701. Honors Research in Global Studies. (3)** Prerequisite(s): GLST 4601; International Studies major with completion of the International Experience requirement; minimum 3.5 major GPA and 3.25 overall GPA; and approval of a project/thesis proposal through the Honors College Application to Candidacy process. The capstone for the Global Studies Honors Program. Students admitted to the program conduct intensive research on a topic relevant to Global Studies and their concentration within the International Studies major, produce a thesis paper that demonstrates a high level of academic rigor and creative thinking, and present and defend it to a committee of Global Studies faculty for final evaluation.

# Gerontology (GRNT)

**GRNT 2100. Aging and the Lifecourse. (3) (SL)** Cross-listed Course(s): SOCY 2100. An interdisciplinary course that examines the phenomenon of aging and its consequences for society from a variety of perspectives. Students participate in lectures, discussions and service learning projects designed to give them a broad overview of the field of gerontology. Emphasis on the wide variation in the aging process and approaches to meeting the needs of the aging population.

**GRNT 2372. Adult Development and Aging. (3)** Cross-listed Course(s): PSYC 2124. Psychological development through adulthood and old age. Emphasis on processes underlying continuity and change in adulthood, including personality and socialization, cognitive development and the psychophysiology of aging.

**GRNT 3115. Health and the Aging Process. (3)** Cross-listed Course(s): HLTH 3115. Examination of the physiologic processes of aging as a normal life experience. Study of psychological, nutritional and general health issues designed to facilitate high-level wellness.

**GRNT 3125. Older Worker and Retirement. (3)** Cross-listed Course(s): PSYC 3125 and SOCY 3125. Physical characteristics, personal attitudes, and structural factors affecting the employment of persons over 40. Topics include: biological aging, myths and stereotypes about older workers, public policies, human resources practices, economics of retirement, and theories about career and life stages.

**GRNT 3134. Families and Aging. (3)** Cross-listed Course(s): SOCY 3134. Theories explaining the formation and functioning of American families with emphasis on the impact of the aging of society. Examination of the current demographic trends and expectations of multigenerational families, as well as the future demands and modifications.

**GRNT 3267. Sociology of Dying, Death, and Bereavement. (3)** Cross-listed Course(s): SOCY 3267. Social definitions of death, process of dying, facing death across the lifecourse, grief, bereavement, bioethical issues, impacting individuals and society.

**GRNT 3600. Capstone Seminar and Field Experience in Aging. (3)** Prerequisite(s): Completion of at least 12 credit hours in gerontology curriculum with grades of C or above, including GRNT 2100 and three (3 credit) gerontology electives. Capstone course for the Interdisciplinary Studies BA concentration in Gerontology and the Minor in Gerontology designed to help students apply theories, research methods, and specific intervention strategies to substantive issues, and critically examine the organizational structure of aging programs and policies. Two weekly seminar hours and 90 field placement hours divided over the course of the semester.

**GRNT 3800. Independent Study in Gerontology. (1 to 8)** Prerequisite(s): Permission of instructor and the gerontology undergraduate coordinator. Supervised individual study and/or field-based experience in a topic or area of Gerontology of particular interest to the student. *May be repeated for credit but only a total of 3 credits can be counted toward a Gerontology minor.*

**GRNT 4050. Topics in Gerontology. (1 to 4)** Investigation of specific issues in Gerontology, either from the perspective of a single discipline or from a multidisciplinary perspective. *May be repeated for credit with change of topic.* A total of 3 credits can be counted toward minor.

**GRNT 4110. Sociology of Aging. (3)** Cross-listed Course(s): SOCY 4110. Changing characteristics, aspirations and needs of older adults and their impact upon such institutions as the family, work, the economy, politics, education and healthcare; emphasis on sociological theories of aging, contemporary research, and the analysis of specific aging policies and programs.

**GRNT 4230. Advocacy and Aging. (3)** Cross-listed Course(s): SOWK 4230. Introduces learners to the impact ageism has on us as we age and the role that advocacy can play in addressing ageism. Learners will develop skills in identifying ageist systems and increase their understanding of the use of social media as a tool for advocacy with practical hands-on experiences.

**GRNT 4250. Aging Programs and Services. (3)** Examination of federal, state, and local framework of services and programs for the aging.

**GRNT 4260. Women: Middle Age and Beyond. (3)** Cross-listed Course(s): HLTH 4260, GRNT 5260, WGST 4260 and WGST 5260. Examination of the position of older women in society and the particular challenges, issues, and opportunities for women as they age.

**GRNT 4280. The Experience of Dementia. (3)** Cross-listed Course(s): SOWK 4280. Provides an overview of Alzheimer's disease and related disorders using a person-centered perspective. Explored from the perspectives of the person diagnosed, family members and concerned friends, and both informal and formal caregivers. Students gain a holistic insight into these disorders and their implications for both individuals and society.

**GRNT 4290. The Experience of Loneliness. (3)** Cross-listed Course(s): SOCY 4290. Explores the experience of loneliness among older adults in society. Drawing on academic texts, empirical research, and personal accounts of loneliness, the aim is to identify the extent of loneliness experienced by older adults in various contexts. In particular, the readings consider the consequences of loneliness on the physical, mental, and social well-being of older adults.

**GRNT 4353. Environments for Aging. (3)** Cross-listed Course(s): SOWK 4353. Introduction to the values and practices of a broad spectrum of housing alternatives for an aging population, which include traditional and household models of long term care, therapeutic environments for individuals with dementia, Naturally Occurring Retirement Communities (NORCS), as well as co-housing and intentional community options.

**GRNT 4364. Aging and Criminal Justice: An Interdisciplinary Understanding (3)** Cross-listed Course(s): CJUS 4364, GRNT 5364. Utilizes an interdisciplinary approach to examining the many ways in which we interface with the criminal justice system as we age. Topics include: the nature and extent of aging related crime, the criminal justice system response to older offenders, older adults as participants in criminal trials, older adults as victims of crime and abuse, and legal issues for the older adult population. Particular attention is placed on assessing these issues from a policy perspective that incorporates concern for administrative, legal, and ethical issues.

**GRNT 4365. Grief and Loss Across the Lifespan. (3)** Cross-listed Course(s): GRNT 5365, SOWK 4365, and SOWK 5365. Prepares the professional practitioner to understand and respond effectively to individuals, families, groups, organizations and communities experiencing both symbolic and tangible losses and accompanying grief reactions. Topics include: theories of normal and complicated grief, factors that influence grief at different stages of the life span, cultural and spiritual influences, traumatic loss, anticipatory grief and end of life care, the impact of loss and working in close contact with grief on professionals, and skills and strategies that address therapeutic needs of vulnerable and resilient populations experiencing grief.

**GRNT 4366. Minorities and Aging. (3)** Cross-listed Course(s): SOCY 4366. An overview of diversity in aging through a multidisciplinary lens. Key concepts and current research findings concerning older adults are discussed within a historical gerontological context. Drawing from the rich contributions of several disciplines (e.g., gerontology, sociology, social work, psychology), the course challenges students to consider complex issues of aging and their unique impact on diverse older populations.

## Health and Human Services (HAHS)

**HAHS 1101. Prospect for Success in Health and Human Services. (1 or 3)** Prerequisite(s): First-semester Freshman; and either Pre-Kinesiology, Pre-Nursing, Pre-Public Health, Pre-Social Work, or Health Systems Management major. A seminar-style learning experience designed for freshmen College of Health and Human Services pre-majors to engage in the University, college, and community activities to successfully graduate within four years. Provides students with an orientation to University resources, engaging students in self-development/reflection, inquiry, goal-setting, disciplinary content, and constructing a career trajectory in one of the professional disciplines within the college. *May not be repeated for grade replacement.*

**HAHS 1201. Prospect for Success for Transfer Student. (1)** Prerequisite(s): College of Health and Human Services transfer student. A seminar-style learning experience designed for CHHS transfer student pre-majors to engage in the University, college, and community activities and successfully graduate within four years. Provides an orientation to University resources, engaging students in self-development/reflection, inquiry, goal-setting, disciplinary content, and constructing a career trajectory in one of the professional disciplines within the college. *May not be repeated for grade replacement.*

**HAHS 1511. Local Social Science: Issues of Health and Quality of Life. (3)** All Local Theme courses explore the central, unifying question of what it means to be a member of the "local" community in which we live. Through the study of the experiences of different peoples, cultures, and communities in our city, our region, or our nation, students will be able to better understand themselves in the context of the complex and diverse society in which we live. This local theme course explores individual and social aspects of health. Analysis of individual health and illness behavior and theory; the social, political, and economic contexts of health and illness; and the broad cultural, ethical, and religious understandings of health and illness. *May not be taken for credit and for a grade if credit has been received for LBST 2214.*

## Holocaust, Genocide, and Human Rights Studies (HGHR)

**HGHR 2100. Introduction to Holocaust, Genocide, and Human Rights Studies. (3)** Cross-listed Course(s): GLST 2100. Examines the Nazi Holocaust and its origins in Western thought and practice. Analyzes the psychological, cultural, and political roots of other genocides and forms of mass violence. Explores modern concepts of human rights and the role of human rights activism.

**HGHR 3050. Topics in Holocaust, Genocide, and Human Rights Studies. (3)** Cross-listed Course(s): ANTH 3127. Study of a special topic. *May be repeated for credit with change of topic.*

**HGHR 3110. Resistance During the Holocaust. (3)** Cross-listed Course(s): GLST 3173. Modern history has given rise to various forms of repression, but no system -- not even Nazi Germany -- succeeded in extinguishing the desire for greater freedom. The subjects and victims of the Third Reich devised varied, creative ways to resist Nazi tyranny, preserve pre-Nazi political and social traditions, and assert their dignity. Through memoirs and other readings, the range of responses and survival strategies of Jews, dissident Germans, and peoples of Poland, France, and other German-occupied lands are explored.

**HGHR 3220. The U.S.-Vietnam War and the Global Upheaval of the 1960s-1970s. (3)** Cross-listed Course(s): GLST 3174 and HIST 3003. The U.S.-Vietnam War continues to haunt the political and cultural landscape of both nations. Yet the war remains poorly understood and remembered - in both lands. This course stresses the diversity of American experiences, as well as the breadth of Vietnamese experiences and perspectives. It provides a multidisciplinary, multicultural, global overview of the war's history and context, examining imperialism, racism, and anti-colonialism; socialism and Stalinism; and the global youth revolt that was provoked in large part by the war. Cultural texts (e.g., music, literature, film), memoirs, and other primary and secondary sources are examined.

## Health & Medical Humanities (HHUM)

**HHUM 2100. Introduction to Health & Medical Humanities. (3)** Prerequisite(s): Interdisciplinary Studies major concentrating in Health & Medical Humanities or Health & Medical Humanities minor. Health & Medical Humanities is an interdisciplinary field that uses humanistic perspectives to understand health and healthcare. The humanities have the potential to teach us about the embodied human experience, including suffering, healing, well-being, and flourishing. As an introduction to the minor or concentration in Health & Medical Humanities, this course employs holistic and integrated understandings of what it means to be human, in contrast to what has been called "biomedical reductionism." Introduces health and the body through multiple ways of knowing; students experience a holistic, "whole-body" approach to understanding the body. Moving through embodied knowing, heartful knowing, narrative knowing, critical knowing, cultural knowing, collaborative knowing, contemplative knowing, aesthetic knowing,

empathetic knowing, social knowing, ethical knowing, and systematic knowing, students are moved through narrative, arts-based, humanities, social science, and dialogic ways of thinking in order to intentionally and variously use stories, poems, mediated images, cultural artifacts, and artwork; physical sensations and emotions; knowledge of culture, history, and society; and contemplation and dialogue to contribute to deep sensemaking and critical examination of what it means to be an embodied human.

**HHUM 3020. Topics in Health & Medical Humanities. (3)** Prerequisite(s): Interdisciplinary Studies major concentrating in Health & Medical Humanities or Health & Medical Humanities minor. Pre- or Corequisite(s): HHUM 2100. Cross-listed course(s): COMM 3051; COMM 3052. Timely and important areas relevant to Health & Medical Humanities. *May be repeated for credit with permission of advisor.*

**HHUM 3030. Health & Medical Humanities Study Abroad. (3)** Prerequisite(s): Interdisciplinary Studies major concentrating in Health & Medical Humanities or Health & Medical Humanities minor. Pre- or Corequisite(s): HHUM 2100. Examines Health & Medical humanities in an international setting. *May be repeated for credit with permission of advisor.*

**HHUM 4020. Topics in Health & Medical Humanities. (3)** Prerequisite(s): HHUM 2100. Timely and important areas relevant to Health & Medical Humanities. *May be repeated for credit with change of topic.*

**HHUM 4800. Health & Medical Humanities Portfolio Capstone. (3)** Prerequisite(s): HHUM 2100; 12 elective credit hours For HHUM minors: 12 elective credit hours (including HHUM 3020 or HHUM 3030 as options) For IDST/HHUM majors: 9 elective credit hours (including HHUM 3020 or HHUM 3030 as options); Interdisciplinary Studies major concentrating in Health & Medical Humanities or Health & Medical Humanities minor. A permit is needed for IDST/HHUM majors to enroll in this course by your advisor or the Director of HHUM. Cross-listed course(s): COMM 4615. Students work in a class setting with their professor or independently with their advisor or other approved faculty member to create a specialized project emphasizing the student's cumulative academic experience across the Health & Medical Humanities program and other related coursework. Coursework typically includes portfolio preparation, written report, and an oral report.

# Human-Centered Artificial Intelligence (HCAI)

**HCAI 1100. AI Fundamentals and Literacy for All. (3)** Builds essential AI literacy by teaching students to critically evaluate, communicate, and collaborate effectively with AI technologies across personal, academic, and professional contexts. Students will explore fundamental concepts of artificial intelligence, focusing on how to interact with Generative AI tools through responsible use practices. The curriculum emphasizes the analysis of critical socio-technical issues, including privacy, algorithmic bias, data security, and the impact of automation on society. Ultimately, participants will be equipped to critically evaluate the advantages and limitations of applying AI systems within diverse interdisciplinary environments.

**HCAI 2100. Computing, Labor, and Power in History and Society. (3)** Examines the history and evolution of artificial intelligence through the lens of the humanities and social sciences, moving beyond technical mechanics to investigate the ethical systems that shape computing. Students will trace the progression of "thinking machines" from early machine systems to modern realities like algorithmic bias, analyzing how technology intersects with creativity, power, and society. Building on foundational AI literacy, the curriculum integrates interdisciplinary perspectives to explore how automation transforms labor systems, society, and human communication. Ultimately, the course prepares students to become critically aware thinkers capable of understanding the profound social and political impacts of applied artificial intelligence.

**HCAI 2101. AI Application and Impact Across Disciplines. (3)** Designed for students across all disciplines, this foundational course provides the critical analysis skills necessary to understand and engage with the future of artificial intelligence. It offers a panoramic overview of AI's operational principles and innovative applications to demonstrate why this technology matters for every career path. Through discovery and experimentation, learners will explore how AI is reshaping diverse sectors, ranging from medical diagnostics to climate modeling. Crucially, the curriculum emphasizes data ethics and policy, teaching students to identify bias and promote responsible, ethical and literacy-based AI practices in global contexts.

**HCAI 3111. HCAI Social Science Applied. (3)** Prerequisite(s): Disciplinary prerequisites may be required for some sections of HCAI 3111. Uses social science theoretical lenses, research methodologies, and ethical frameworks to analyze, critique, and assess the usefulness, potential harms, and societal value of AI applied practices in society. This course is cross-listed with social science disciplinary courses offered. These foundational courses, taught by faculty with interests in AI ethics, governance, human-AI interaction, environmental, ecological, and behavioral impacts, and AI pedagogical application move students beyond theoretical frameworks toward more critical and applied AI in Social Sciences. Emphasis will be placed on the foundational skills most needed in contemporary workplaces and applying AI to solve contemporary problems and critically address the major societal and ethical issues posed by artificial intelligence. *May be repeated for credit with change of topic or section.*

**HCAI 3112. Applied Humanities in Artificial Intelligence Studies. (3)** Cross-listed Course(s): ENGL 4182, PHIL 3224, PHIL 3253, PHIL 3255, PHIL 3272, RELS 2104, RELS 2246, RELS 2301, RELS 2600, RELS 3114, RELS 3118, RELS 3212, RELS 3215, RELS 3400, SPAN 3201. This course, which can be cross-listed across CHESS humanities and related curriculum, will build on foundations of AI within and across disciplinary studies to examine how studies of Artificial Intelligence are applied in interdisciplinary humanities curriculum. Questions and topics in courses will examine methods of inquiry and humanistic insights with a lens toward artificial intelligence studies and impact. *May be repeated for credit with change of topic.*

**HCAI 4600. HCAI Capstone. (3)** Prerequisite(s): HCAI 1100, HCAI 2100, HCAI 2101, IDST 3100; Admission to the IDST Major and HCAI Concentration. Co-requisite Course(s): HCAI 3111, HCAI 3112. The HCAI Capstone seminar provides students with flexible options to apply the skills they have practiced and the knowledge they have acquired throughout the HCAI concentration path in ways that will not only serve their career goals but also give back to the Charlotte community in key

ways. Students can select from several options that align with their elective choices. These options include: Internships, Course Based Internship Experiences, Internships through Departments, the Career Center, Service Learning or Community Based Projects, or Interdisciplinary Projects

# History (HIST)

**HIST 1000. Topics in History. (3)** Instruction of a historical topic at an introductory level. *May be repeated for credit with change of topic.*

**HIST 1121. European History Since 1660. (3)** Cross-listed Course(s): GLST 2301. European history from the Age of Absolutism to the present. *May not be taken for credit and for a grade if credit has been received for HIST 1502.*

**HIST 1160. U.S. History to 1865. (3)** American history from the earliest times to 1865. *May not be taken for credit and for a grade if credit has been received for HIST 1575.*

**HIST 1161. United States History Since 1865. (3)** American history from 1865 to the present.

**HIST 1502. Global Arts/Humanities: Issues in Global History. (3)** This Global Theme course uses the methods and insights of the arts and humanities to explore the central question of what it means to be a citizen of the world. Through the study of one or more different peoples, societies or cultures across the globe, students will be able to better understand themselves as part of a complex, interconnected world. HIST 1502 uses examples drawn from different times and places in global history to explore questions about historical change and continuity over time. Sections of this course may focus on the history of one particular country/region to enable students to appreciate how people in a different part of the world experience common events and processes. Other sections of this course may explore the dynamic relationships between two or more countries or regions of the globe. *May not be taken for credit and for a grade if credit has been received for HIST 1121.*

**HIST 1575. American Democracy's Past and Promise. (3)** An examination of issues or concepts related to American democracy, with attention to key historical documents including but not limited to: the Declaration of Independence, the U.S. Constitution, the Federalist Papers, the Gettysburg Address, the Emancipation Proclamation, and Dr. Martin Luther King Jr.'s Letter from Birmingham Jail. Using a variety of approaches, this course will provide the historical context and deep critical analysis necessary to help students understand the importance of these foundational documents to the American democratic journey. *Course may be repeated.*

**HIST 2000. Topics in U.S. History. (3)** Discussion of a topic in U.S. History. *May be repeated for credit with change of topic.*

**HIST 2001. Topics in European History. (3)** Discussion of a topic in European History. *May be repeated for credit with change of topic.*

**HIST 2002. Topics in Non-Western History. (3)** Discussion of a topic in non-Western History. *May be repeated for credit with change of topic.* Meets non-Western requirement.

**HIST 2003. Topics in Comparative History. (3)** Discussion of a topic in comparative history. *May be repeated for credit with change of topic.*

**HIST 2004. Topics in Applied History. (3)** Discussion of a topic in applied history. *May be repeated for credit with change of topic.*

**HIST 2005. Introduction to Historical Studies. (3)** Prerequisite(s): Entering freshman, first time in college, History Learning Community member, and permission of instructor. Seminar based on a historical theme, in which students accelerate academic and communication skills by co-researching and peer teaching the topic at hand.

**HIST 2050. Themes in United States History. (3)** Explores major themes in United States history. It does so by emphasizing continuity and change over time through historical examinations, analyses, and findings that focus on the interconnections and intersections of similar and/or different topics and events in the history of the United States. *May be repeated for credit with change in topic.*

**HIST 2051. Themes in European History. (3)** Explores major themes in European history. It does so by emphasizing continuity and change over time through historical examinations, analyses, and findings that focus on the interconnections and intersections of similar and/or different topics and events in the history of Europe. *May be repeated for credit with change of topic.*

**HIST 2101. American Business History. (3)** A survey of the origins, methods, and goals of modern business enterprise. Lectures emphasize the social history of the American business community and the relation between public policy and economic growth. Discussion emphasizes current economic problems and policies.

**HIST 2105. American Slavery and Emancipation. (3)** The transformation of life and labor for African Americans from the era of North American colonization through the Civil War and Reconstruction. Emphasizes slavery as a complex system of labor exploitation and racial control, the dynamics of slave communities, slave resistance, emancipation as process, blacks as agents of their own social and economic change, and the broad meanings of slavery and freedom in American life and in world history. Coursework includes reading of primary and secondary texts.

**HIST 2111. Technology and Science in Society II: Since the Industrial Revolution. (3)** The history of science and technology in society from the 18th century to the present. Examines the inter-connections of science and technology with society, with particular attention to the U.S. This course does not require a background in science or technology.

**HIST 2120. American Military History. (3)** A survey of the development and organization of military practice from the colonial period to the present.

**HIST 2130. History of the American Indian. (3)** An introduction to the diversity of Native North America and the trends and movements that shaped the experiences of Native peoples in North America. The course

also examines the relationships between Native Americans and non-Native Americans and the repercussions of those relationships.

**HIST 2140. Disease and Medicine in History. (3)** Development of medical knowledge, trends in the techniques and availability of medical and psychiatric care, impact of disease and medicine, on selected problems in world history.

**HIST 2145. Feeding a Mighty Nation: Food Production, Consumption, and Marketing in the USA**. (3) Capitalism has profoundly shaped food production, marketing and consumption in the USA. Where and how food is grown, what kinds of food, the quality, smell, look, taste and cost of food are all shaped by market forces and influenced by marketers. Large-scale corporate conglomerates and marketing agencies play a significant role in food production and consumption, while organic farming has emerged recently as an alternative source of food. Low-wage workers, however, are the backbone of the food production and distribution chain. They toil in the fields, livestock feedlots, fisheries, processing plants, drive trucks, and work in grocery stores and in fast food industries. This lecture and discussion course in Food Studies surveys the evolution of food production, marketing and consumption from the colonial era to the present.

**HIST 2150. U.S. Women's History to 1877**. **(3)** Cross-listed Course(s): WGST 2150. A survey of women's experience in the U.S. from colonization through the Civil War and reconstruction. Special emphasis on the evolution of women's public roles and the impact of class, race, and region in shaping women's lives.

**HIST 2151. U.S. Women's History since 1877. (3)** Cross-listed Course(s): WGST 2251. A survey of women's experience in the U.S. from reconstruction to the present. Special emphasis on work, family, and feminism, and the impact of class, race, and region in shaping women's lives.

**HIST 2152. European Women's and Gender History. (3)** Cross-listed Course(s): WGST 2252. An exploration of women's changing roles in European Society and politics, covering topics of religion, work, family, and activism.

**HIST 2155. Southern Women's History. (3)** Surveys the history of women's experiences in the American South. Through readings, lectures, and discussion students will learn about the importance of race, class, and gender in shaping southern women's lives.

**HIST 2160. African American History, 1400-1860. (3)** Cross-listed Course(s): AFRS 2160. Explores the events and circumstances that brought Africans to the Americas and the experience of these peoples during the time that slavery persisted in the South. Emphasis will be upon the economic and cultural systems that created and maintained slavery in the South and constrained freedom in the North and on the responses and struggles of Africans to these systems.

**HIST 2161. African American History Since 1860. (3)** Cross-listed Course(s): AFRS 2161. Explores the African American experience from the Civil War to the present. It follows the struggle of freed slaves and free people of color to take advantage of the promise of emancipation and the changing place of African Americans in their society.

**HIST 2162. African American Women's History to 1877. (3)** Discusses the historical experiences of women of African descent living in the United States from the colonial period to the end of Reconstruction. Through themes like work, family, religion, identity, image, sexuality, and oppression, students explore how social, political, and economic events shaped the meanings of freedom for women of African descent.

**HIST 2163. African American Women's History Since 1877. (3)** Discusses the historical experiences of women of African descent living in the United States from the end of Reconstruction to the present. Through themes like work, family, religion, culture, identity, image, sexuality, and oppression, students explore how class, race, and region shaped African American women's lives.

**HIST 2170. Latino/as in the United States, 1846 to Present. (3)** Cross-listed Course(s): LTAM 2270. A survey of the diverse Latino/a experience in the United States from the Mexican-American War to the present, with emphasis on the twentieth century and contemporary issues. Themes include colonialism, immigration policies, transmigration, labor, rural and urban life, culture, political and environmental activism, and race relations.

**HIST 2201. History of Modern Asia. (3)** Cross-listed Course(s): GLST 2201. Focus on the rise of modern Asia from the period just prior to the armed intervention of Western European nations. Emphasis is placed on the impact of imperialism, colonialism, and the rise of Asian nationalism on Asian societies. Meets non-Western requirement.

**HIST 2203. Children in War and Conflict. (3)** Examines the evolution of, and the role children play, in modern war and conflict throughout the world. Case studies range from child volunteers in the Great War to child terrorists in the Middle East; from child victims in Africa and Asia, to child gang members in the Americas. Students will follow the lives of four eyewitnesses to determine their motivation and circumstance as child refugees and combatants. Meets non-Western requirement. *May be repeated for credit up to 6 credit hours.*

**HIST 2206. Colonial Latin America. (3)** Cross-listed Course(s): LTAM 2206. A survey of major political, economic, and cultural developments from earliest times to 1826. Meets non-Western requirement.

**HIST 2207. Modern Latin America. (3)** Cross-listed Course(s): GLST 2401. A survey of Latin American history from 1826 to the present with emphasis on the economy and society. Special attention to twentieth-century revolutions and the role of the United States in Latin America. Meets non-Western requirement.

**HIST 2208. Privateers, Buccaneers, and Pirates of the Caribbean, 1523-1726. (3)** The investigation of piracy in the Caribbean from the sixteenth to the eighteenth century. The course begins with the sixteenth-century French and English privateers, such as Sir Francis Drake, who both participated in the Atlantic African Slave Trade and raided the Spanish Colonies. Then it examines the buccaneer age, when crews based at Port Royal, Jamaica and Petit-Goâve, Haiti raided Spanish settlements from the Caribbean to the Pacific Coast. It ends with the Golden Age of Caribbean Piracy in the first few decades of the eighteenth century with crews who were beholden to no nation, such as those of Blackbeard and Stede Bonnet. In conjunction with attending class lectures and discussions, students read textbook and primary source

readings, take quizzes and exams, and complete written assignments. *Meets non-Western requirement.*

**HIST 2209. Cultures, Contacts, and Conflicts in the Colonial Caribbean, 1492-1898. (3)** Investigates the colonial Caribbean as a place where the Atlantic peoples and cultures of Africa, the Americas, and Europe came into contact and conflict. The courses starts with the Portuguese, whose maritime innovations and voyages along the African coast laid the groundwork for the 1492 journey of Columbus. Next covered are the Spaniards, from Columbus and the discovery of gold on Hispaniola, to the later role of the Caribbean in the wider Spanish Empire. Also examined are the Dutch, English, and French as they voyaged to the Caribbean, both to plunder and to settle. Topics include: indigenous responses to European contacts, the development of sugar plantations and the importation of enslaved Africans, and how trade connected the peoples of the Caribbean with the wider Atlantic. In conjunction with attending class lectures and discussions, students read textbook and primary source readings, take quizzes and exams, and complete written assignments. *Meets non-Western requirement.*

**HIST 2210. Pre-Colonial Africa. (3)** A survey of major political, economic and religious developments in Sub-Saharan Africa from earliest times to the early 19th century. Meets non-Western requirement.

**HIST 2211. Modern Africa. (3)** Cross-listed Course(s): AFRS 2221 and GLST 2101. A survey of major developments in 19th and 20th century Sub-Saharan Africa, with emphasis on the European conquest, the colonial period, and the triumph of modern African nationalism. Meets non-Western requirement.

**HIST 2215. A History of Muslim Societies. (3)** The history of Muslim societies from the 6th century until the present times. Focuses on the following issues: Birth and expansion of Islamic faith; political, cultural, artistic, intellectual and social history of Muslim societies; relationship between the Islamic World and the Christian Europe; impact of imperialism, nationalism and modernization of Muslim societies; and the efforts to reassert Islamic identity in an era of tightening globalization. Meets non-western requirement.

**HIST 2216. The Modern Middle East. (3)** Cross-listed Course(s): RELS 2216. An introduction to the history of this important and dynamic region. Focuses on the issues that have defined the Middle East in the recent past and provides students with the historical context needed to understand the region, its peoples, and its conflicts in greater depth. Meets non-Western requirement.

**HIST 2222. History of Rome. (3)** A survey of Ancient Rome from the Etruscans to the end of the Western Roman Empire in 476 A.D. Topics may include: Etruscan Italy, the Punic Wars, Republican rule, creation of the Empire, the Pax Romana, crisis of the third century, and the fall of Rome.

**HIST 2225. Medieval Europe. (3)** A survey of Europe from the decline of the Roman Empire, 300 B.C.E. to 1450 C.E. Topics include: the spread of Christianity, the Frankish Monarchy, the Crusades, the revival of towns, the growth of centralized monarchies, and the Black Death and its consequences.

**HIST 2226. Renaissance and Reformation in Europe. (3)** European history in the era of Renaissance and Reformation, 1400 to 1650, with special attention to art and comparative analysis.

**HIST 2230. Life in the Middle Ages. (3)** Discussion of the socio-economic underpinnings of the Medieval World with a focus on the daily life of and interactions between nobles and commoners. Topics include: war and chivalry, feudalism and manorialism, law and justice, organized and folk religion, arts and education, and the rise of the city.

**HIST 2231. Magic in Medieval and Early Modern Europe, 500-1700. (3)** The evolution of the role of magic in society from its ubiquitous common practice in the early Middle Ages to its deeply feared threat to social order in the Age of Enlightenment. Using texts from Medieval popes, kings, theologians, and inquisitors, students trace the changing perceptions of magic, religion, superstition and science that with dramatic social and economic societal upheavals, ultimately lead to deadly purges of imagined diabolical conspirators.

**HIST 2232. Revolutions that Shaped the World. (3)** Introduction to the ways in which select revolutions in human history changed how humans ordered their lives and livelihoods.

**HIST 2235. The Age of Revolutions in Europe, 1789 to 1917. (3)** Discussion of the role the major revolutions of the nineteenth century played in the making of modern politics.

**HIST 2251. Russian History from 1552 to 1861. (3)** Discussion of Russian history from the foundation of Tsarist Empire to the heyday of the Romanov Dynasty.

**HIST 2252. Russian History from 1861 to the Present. (3)** Discussion of the decline of the Tsarist Empire through the rise and fall of Soviet Russia.

**HIST 2261. Britain Since 1688. (3)** An introduction to British history from the Revolution of 1688 to the present. Explores the rise of and fall of the United Kingdom as the world's leading industrial, urban, and imperial country.

**HIST 2265. History of Ireland. (3)** An introduction to Irish history from prehistory to the present, with attention to power relations, migration, religious identity, and nationalism.

**HIST 2281. Modern Germany. (3)** A survey of German history in the 19th and 20th Centuries covering the emergence of a unified Germany, the Wilhelmine Empire, the Weimar Republic, the Third Reich, the two Germanys and reunification.

**HIST 2297. History of North Carolina, 1500 to the Present. (3)** An overview of North Carolina's historical development focusing on the social, economic, and political events that have shaped the state.

**HIST 2400. History Internship. (1 to 3)** Applied historical techniques utilizing modern methodology and experiences in off-campus institutions or on historical sites. *Graded on a Pass/No Credit basis.*

**HIST 3000. Topics in U.S. History. (3)** Examination of a topic in U.S. History. *May be repeated for credit with change of topic.*

**HIST 3001. Topics in European History. (3)** Examination of a topic in European History. *May be repeated for credit with change of topic.*

**HIST 3002. Topics in Non-Western History. (3)** Examination of a topic in non-Western History. *May be repeated for credit with change of topic.* Meets non-Western requirement.

**HIST 3003. Topics in Comparative History. (3)** Examination of a topic in comparative history. *May be repeated for credit with change of topic.*

**HIST 3004. Topics in Applied History. (3)** Examination of a topic in applied history. *May be repeated for credit with change of topic.*

**HIST 3005. Topics in Law and History. (3)** Examination of a legal topic in historical context or relationship. Readings include case studies and primary source documents. *May be repeated for credit with change of topic.*

**HIST 3010. Non-Western History and Culture through Film. (3)** An examination of twentieth-century non-Western historical themes in cultural context through films and scholarly monographs. *May be repeated for credit with change of topic.* Meets non-Western requirement.

**HIST 3011. History and Culture through Film. (3)** An examination of twentieth-century historical themes in cultural context through films and scholarly monographs. *May be repeated for credit with change of topic.*

**HIST 3080. Topics in Public History. (3)** Examination of a topic in public history. *May be repeated for credit with change of topic.*

**HIST 3104. Britain in the Age of Industry and Empire, 1815-1914. (3)** For most of the century that spanned the defeat of Napoleon and the outbreak of the First World War, Britain possessed the largest industrial economy and the biggest empire that the world had ever seen. Yet London, which became the imperial capital to a quarter of the world's people, also nurtured radicals who sought to overturn these very changes. This course explores this dynamic by focusing on three interconnected themes in nineteenth- and early twentieth-century-Britain: technological and environmental change, culture, and imperialism. In addition to reading recent scholarship and watching films, students work with historical newspapers, magazines, and other primary sources to develop their own interpretations of this fascinating period.

**HIST 3105. Europe in the Age of the French Revolution and Napoleon. (3)** Next to the American Revolution, the French Revolution is arguably the most important and dramatic event of the modern era. This course analyses the causes and consequences of the French Revolution and the reign of Napoleon Bonaparte on France and the European continent. Through a combination of primary and secondary sources and focused research and writing exercises, students trace the tumultuous transformation of France from a feudal society to democratic one, and evaluate the impact of Napoleonic reforms in spreading the ideals of liberty, equality, and fraternity throughout Europe.

**HIST 3141. World War I. (3)** World War I from the outbreak of hostilities to the peace settlement. Impact on the combatant nations and subsequent development of the World.

**HIST 3142 World War II. (3)** Military and social history of World War II from its outbreak in Europe to peace in the Pacific. Includes case studies of specific battles and its impact on combatants and civilians.

**HIST 3143. World War II: The Propaganda Battle. (3)** World War II was the first full-scale propaganda battle. Using (in)famous film and visual case studies from allied and axis nations, this course examines the powers and limitations of government persuasion in times of war. Students will analyze and reflect on the principles, techniques, applications, and effects of propaganda on civilians and opponents; and evaluate the role propaganda plays in modern warfare. *May be repeated for credit up to 6 credit hours.*

**HIST 3147. The Third Reich. (3)** Examines the social history of Nazi Germany, from the rise if the movement to its destruction of the nation and its people. Using primary documents and eyewitness accounts, students will investigate the origin and attraction of Nazism, its totalitarian structuring of society, everyday life under Nazi direction and repression, its quest for supremacy, and the price of terror and defeat. *May be repeated for credit.*

**HIST 3148. The Holocaust. (3)** The Holocaust: Between 1933 and 1945, the Nazis and their Allies exterminated approximately 6 million Jews and 6 million non-Jews and caused the displacement and suffering of many millions more. This course examines Study of the roots, conception, evolution and execution of the Holocaust, and its impact on culture and society. This course uses primary sources and eyewitness accounts, students to examine investigate the Shoah from the perspectives of the perpetrator, victim, rescuer, and bystander.

**HIST 3154. Globalization in African History. (3)** Cross-listed Course(s): AFRS 3154. Examines how the emergence of globalization and global interdependency has impacted the African continent in social, economic, political, cultural, and historical contexts. Discussion of major concepts and thinkers; with specific attention to recent historical developments, successes, and challenges. Meets non-Western requirement.

**HIST 3155. Health and Healing in Africa. (3)** An historical context for some of the major healthcare challenges facing Africa today from malaria and river blindness to Ebola and AIDS. Rather than uncritically accepting the impression of Africa as a 'land of disease,' the course traces the history, health, and healing from the pre-colonial era through the period of colonial domination, and since political independence. Meets non-Western requirement.

**HIST 3161. The Vietnam Wars. (3)** Introduction to Vietnamese culture and nationalism and the processes of war in Vietnam that involved different factions of Vietnamese society as well as the countries of Japan, France, and, eventually, the United States between 1940 and 1975. Students will briefly look beyond the conflict to examine the consequences of these conflicts, including a mass diaspora of Vietnamese people the world over. Topics will probe such assessments of the conflicts' origins, causes, and effects, working toward a holistic and accurate understanding of this all too simplified epoch. Course materials will include secondary sources written by historians and other scholars, as well as primary (first-hand, eyewitness) archival material from Vietnam, France, and the United States. Students will assess the decisions made, examine how these wars shaped Asia and the broader world, and explore new perspectives that challenge and build upon predominant beliefs about Vietnam and its history. *May be repeated for*

*credit up to 6 hours.*

**HIST 3165. History of Modern Japan. (3)** Examination of Japan from about 1600 to the present, covering Japan's intellectual, social, and economic transformation from an agricultural society to an industrial power. Meets non-Western requirement.

**HIST 3167. The Ottoman Empire, 1300-1918. (3)** Explores the six-hundred-year history of the Ottoman Empire. Situates the Ottoman imperial experience in relation to Muslim, Mongolian, and Byzantine traditions. Considers war, rebellion, and political change from elite and non-elite perspectives. Discusses the early modern and modern transformation of the Ottoman Empire and its legacy for contemporary Eastern Europe, the Middle East, and North Africa.

**HIST 3168. Gandhi and Radical Dissent in the Modern World. (3)** Examines the life and ideas of 'Mahatma' Mohandas Karamchand Gandhi. Gandhi's radical critiques against oppression were not only central to the Indian nationalist struggle against British colonial rule, but also influenced struggles and dissenters across the globe - like Martin Luther King and the Civil Rights Movement in the United States, Nelson Mandela and the anti-apartheid movement in South Africa, or Aung San Suu Kyi and the pro-democracy movement in Myanmar. Through his writings, as well as the arguments of his critics, students critically analyze Gandhi's role in the Indian nationalist movement, the character and scope of this dissent; and the influence of his work over American politics - specifically the Civil Rights Movement. Meets non-Western requirement.

**HIST 3169. Central Asia from 1800 to the Present. (3)** Examination of the history of Central Asia from the Russian conquest up through the collapse of the Soviet Union and the era of independence. Specific consideration is given to the former Soviet Republics of Kazakstan, Uzbekistan, Tajikistan, Kirgizstan, and Turkmenistan, as well as Afghanistan, Mongolia, and Xinjiang in China. Particular themes and topics include: colonization, revolution, reform, nationalism, Islam, and international relations. Meets non-Western requirement.

**HIST 3171. Comparative Genocide. (3)** Cross-listed Course(s): GLST 3171. The term "genocide" is often used imprecisely in popular and political discourse. Through examinations of several case studies – the Armenian genocide, the Holocaust, and post-war genocides in Cambodia, Guatemala, and Rwanda, among others - this course explores the roots and the psychological, cultural, and political impacts of genocide and other forms of mass violence.

**HIST 3172. Political Repression and Rebellion in the Contemporary World. (3)** Cross-listed Course(s): GLST 3172. Modern history has given rise to various forms of repression, but no system has succeeded in extinguishing the desire for greater freedom. This course examines scholarly and popular conceptions of rebellion and other forms of collective defiance. Through the use of memoirs, contemporary accounts, and other texts, it analyzes a variety of case studies of resistance from across the world.

**HIST 3176. History of Mexico. (3)** Cross-listed Course(s): LTAM 3276. An examination of Mexican history from pre-Columbian times to the present. Special emphasis is given to the Spanish conquest, the colonial economy, the independence period, the revolution, and relations with the United States. Meets non-Western requirement.

**HIST 3178. History of Brazil. (3)** Cross-listed Course(s): AFRS 3278 and LTAM 3278. A study of Brazilian history since 1500, with an emphasis on social and economic history. Emphasizes slavery and race relations, the emergence of export economics, rural protest movements, the effects of urbanization and industrialization, and the rise and fall of the military dictatorship. Meets non-Western requirement.

**HIST 3179. Authoritarianism in Latin America. (3)** Cross-listed Course(s): LTAM 3279. A study of authoritarian rule and popular resistance to authoritarianism in one or more selected Latin American countries, including, but not limited to, Argentina, Brazil, and Chile. *May be repeated for credit with change of topic.* Meets non-Western requirement.

**HIST 3180. Caribbean History. (3)** Cross-listed Course(s): LTAM 3220. Covering the sweep of history from European/indigenous contact, through the construction of a plantation regime based on African slave labor, and up to the present day, this course explores the spread of colonialism, the dynamics of slavery, and the tumult of abolition and national independence movements. The Caribbean Sea will be examined as a region, emphasizing the ties uniting the islands and the circum-Caribbean coasts. The region's past - including empire and imperial conflict, racial oppression and interaction, and international contact - and its legacies are discussed in relation to political economics, race, and contemporary culture. Meets non-Western requirement.

**HIST 3181. Afro-Latin American History. (3)** Cross-listed Course(s): AFRS 3270 and LTAM 3270. Explores the African Diaspora in Latin America ranging from the Caribbean Sea to the Rio de la Plata. From slavery, to fighting for freedom in the Spanish-American Wars of Independence, to forging new notions of citizenship in twentieth century Brazil, African-descended peoples have an important place in Latin America's historical past. According special attention to regions with concentrated populations of African-descended peoples, this course reveals the vibrant history of Afro-Latin America. Meets non-Western requirement.

**HIST 3190. Slavery, Racism, and Colonialism in the African Diaspora. (3)** Cross-listed Course(s): AFRS 3260 and LTAM 3260. Explores how race and racism, slavery, and colonialism served as principal institutions and constructs shaping the experience between Africa and the emerging African Diaspora in the New World. Students consider how the maintenance of Western social, economic, and political superiority materialized as functions of these three important historical developments. Meets non-Western requirement.

**HIST 3201. Colonial America. (3)** The diverse and dynamic societies of colonial North America, with particular emphasis on Britain's thirteen mainland colonies. The course begins with Europe's age of discovery and exploration and ends on the eve of the imperial crisis that led to American independence. Major themes and topics include: religious and political ideals of the colonists, labor systems, economic development, and the cultural exchanges between Europeans, Africans, and Native Americans.

**HIST 3202. American Revolution, 1750-1815. (3)** The American Revolution was both a military conflict fought over the issue of colonial independence and a catalyst for sweeping political and social change. Examines the Revolution as a political, social, and military phenomenon, focusing on the transformation of political culture and the experiences of ordinary Americans.

**HIST 3203. The Antebellum U.S., 1800-1860. (3)** Political and social changes accompanying rapid economic transformation between 1800 and 1860. Emphasis on the sectional tensions between North and South.

**HIST 3211. Civil War and Reconstruction, 1860-1877. (3)** The American people in war and the postwar adjustment. Emphasis on the political, social and economic conditions of the North and South during the Civil War and Reconstruction period.

**HIST 3212. History of the South to 1865. (3)** The South from colonial origins through the Civil War. Emphasis on the political and cultural developments which ultimately led the South to secession and the creation of a distinct Southern nation in the Confederacy.

**HIST 3213. History of the South since 1865. (3)** Southern history from Reconstruction to the present. Emphasis on race and class relations as the South copes with change. Special attention is paid to the Civil Rights Movement, industrialization, and urbanization.

**HIST 3215. Southerners. (3)** An examination of the distinctive characteristics of Southerners through study of biographies and autobiographies. The varied backgrounds of Southerners and selected Americans from other regions are studied.

**HIST 3218. Racial Violence, Colonial Times to Present. (3)** Cross-listed Course(s): AFRS 3218. The ways in which African Americans and Caucasians used violence both as part of struggles for liberation and freedom as well as repression from the colonial period to the present in the United States. Focuses on broader processes of social, political, and cultural change and at efforts to build cooperation.

**HIST 3239. African American Music: History and Culture. (3)** Cross-listed Course(s): AMST 3050. Examines the history and scholarship of African American music from enslavement to the present. Focusing on African American sacred and secular music, students investigate how 3252different musical genres -- including spirituals, blues, jazz, gospel, rhythm and blues, as well as hip hop -- reflected African Americans' social, political, and economic experiences.

**HIST 3240. Race and the Law. (3)** Cross-listed Course(s): AFRS 3240 and LEGL 3241. Explores the unique role law has played in establishing the status of persons of African descent in the Americas, with a focus on the United States. Students investigate how the legal history of African Americans has shaped American race relations over the past 400 years by tracing the evolution of race, racism, and racial formations as a function of America's legal system.

**HIST 3255. Democracy in America: A Historical Perspective. (3)** Considers the history of politics and government in the United States by examining the history of American democracy in theory and practice. To what extent have American politics and government been democratic? What does the history of democracy in America suggest about the future of politics and society in the United States and the world? This course will examine the rise of parties and mass politics, machine politics and reform movements, the history of citizenship and suffrage as relates to race, ethnicity, and gender, the relationship between war and democracy, and the problem of reconciling democratic ideals with existing social and economic hierarchies.

**HIST 3256. United States and the World, 1898-Present. (3)** Investigates the United States' foreign relations in the twentieth and early twenty-first centuries and seeks to understand why and how it has become increasingly involved in world affairs. Starting with the War of 1898 and closing with the contemporary global war on terrorism, it examines the interplay of domestic and foreign considerations that have defined the "American Century." This period raises important questions about the nature of American power in relation to traditional empires. The course asks students to think critically about the United States in the context of imperialism and explore how Americans, both in and out of government, sought to reconcile domestic values and identities with the country's growing global presence. It investigates the ideological, economic, political, social, racial, and security considerations that shaped America's emergence as a world power and formed the basis of modern American foreign policy and domestic society. *May be repeated for credit.*

**HIST 3260. The United States and Latin America. (3)** Cross-listed Course(s): LTAM 3260. An examination of the complex relationship between the United States and Latin America in the nineteenth and twentieth centuries. Topics include: U.S. territorial and economic expansion, cultural imperialism, and Latin American efforts to safeguard national sovereignty and to achieve economic development.

**HIST 3270. History of Capitalism in the U.S. (3)** Explores the history of the U.S. economy and the history of capitalism in the U.S, from the Colonial Era to the 21st century, with special attention to the development of business enterprises, business-labor relations, and business-government relations. Topics include: agriculture, labor, and commerce in the colonial-era Atlantic world; the rise and fall of slavery; industrialization; money, banking, and finance; the rise of "big business" and antitrust regulation; lobbying; the rise and decline of organized labor; the New Deal order; the changing position of the U.S in the global economy; and recent trends in the direction of de-industrialization, "financialization," and growing inequalities of income and wealth. Besides acquiring a rich understanding of the history of capitalism and the past and present dynamics of the U.S. economy, students hone their skills in critical evaluation of qualitative and quantitative evidence, original historical research, and advanced analytical writing.

**HIST 3272. The History of Disney, 1923-2004. (3)** Cross-listed Course(s): CAPI 3050, AMST 3050. One might be hard pressed to name a business with a more diversified portfolio than The Walt Disney Company, from its early and humble beginnings (that actually started in a garage) to a corporation that has an extraordinary global position in entertainment and leisure. Disney is synonymous with family-oriented entertainment, a perception it rigorously and litigiously defends, but which critics consistently argue saccharinized history, society, culture, and reality. It has always been a company that encourages and inspires innovation and technology, yet is grounded firmly in a nostalgic sense of Americana. It adopts old world tales and myths, but uses new technology to retell and reimagine them. This course is designed to explore these often contradictory, and equally often complimentary, elements of the man and the company, because few companies or corporations are still so readily identified with a single person more than fifty years after its founder's death. Disney is a cultural, economic, and technology driven company, a product of twentieth-century America, all of which are a part of this course.

**HIST 3274. Nature and American Capitalism. (3)** Cross-listed Course(s): CAPI 3050. Examines how capitalism worked on and in various environments across America from pre-Columbian times to the present. Throughout the semester students will learn how capitalism altered the environment and how this economic system changed over time in reaction to natural forces. The readings and discussions focus on how people have attempted to make nature valuable and the obstacles they encountered in the process. Students can expect to learn how a basic knowledge of the environmental sciences can enrich their understanding of history and economics. Some of the topics covered in this class include: pre-Columbian indigenous economic activity, ecological imperialism, agricultural economics, ecosystem services, water history, slavery, the history of the body, western expansion, the extractive industries, monetary history and theory, conservation, preservation, the Dust Bowl, the New Deal, food systems, and climate change. *May be repeated for credit up to 6 hours.*

**HIST 3275. American Lives. (3)** Exploration of facets of American life through the personal writings of ordinary and famous persons. Students analyze and discuss ways in which historical forces shaped people's lives and the ways in which they interpreted those historical transformations by means of autobiographies and diaries. Case studies may be selected by era or event.

**HIST 3288. American West: From Lewis and Clark to Silicon Valley. (3)** Examination of the history of the modern American West from 1800 to the present. Major themes include conquest, regionalism, environmental change, race and ethnic diversity, economic and political developments, social and cultural trends, and gender and labor relations.

**HIST 3380. Public History. (3)** Discussion of the main fields in Public History, which may include topics such as Museum Studies, Historic Preservation, Digital Media, Oral History, and others. Students also explore how public historians engage various audiences and communities, and they undertake skills-based experiential projects to understand how public historians work.

**HIST 3381. Museum Studies and Historic Sites. (3)** Discussion of the history and functions of museums and historic sites, which may include topics such as exhibit design, ethics, engagement with the public, and others. Students also explore how museums and historic sites engage various public audiences and communities, and they undertake skills-based experiential projects to understand how museums and historic sites function.

**HIST 3382. Historic Preservation. (3)** Discussion of the history and approaches to historic preservation, which may include topics such as historically significant structures, buildings, sites, areas, objects, and others. Students also explore how historic preservation engages various public audiences and communities, and they undertake skills-based experiential projects to understand approaches to historic preservation.

**HIST 3383. Digital History. (3)** Discussion of the history and theoretical and practical approaches to Digital History, which may include topics such as digital tools, websites, databases, podcasts, storymaps, and others. Students also explore how digital historians engage various public audiences and communities, and they undertake skills-based experiential projects to understand how digital historians work.

**HIST 3384. Oral History. (3)** Discussion of the history and applications of Oral History, which may include topics such as recording equipment, interviewing, post-interview work like metadata, and others. Students also explore how oral historians engage various public audiences and communities, and they undertake skills-based experiential projects to understand how oral historians work.

**HIST 3480. Public History Class-Based Internship. (3)** Combines classroom-based learning with an internship experience in a Public History field such as Museum Studies, Historic Preservation, Digital Media, Oral History, or others. The experience will vary depending on the community partnering organizations, but students will work in groups to undertake skills-based experiential activities that propose solutions to problems and develop projects to meet the needs of those partners. Students learn both academic skills and transferable career & professionalization competencies through this experience.

**HIST 3600. History Skills Seminar. (3)** Prerequisite(s): History major or minor; and 9 credit hours of HIST courses. An introduction to, and practicum of, the skills needed for historical investigation and communication; both in written and oral formats. Students must achieve a grade of C or above to satisfy major requirements.

**HIST 3800. Independent Projects in History. (3)** Prerequisite(s): Permission of instructor and department. Individual research or readings on an historical topic. *May be repeated for credit with permission of instructor and department.*

**HIST 4000. Topics in American Historiography. (3)** Prerequisite(s): History major and HIST 3600 with a grade of C or above. Research seminar examining scholarly trends and debates in the field of U.S. History. Students must achieve a grade of C or above to satisfy major requirements.

**HIST 4001. Topics in European Historiography. (3)** Prerequisite(s): History major and HIST 3600 with a grade of C or above. Research seminar examining scholarly trends and debates in the field of European History. Students must achieve a grade of C or above to satisfy major requirements.

**HIST 4002. Topics in Non-Western Historiography. (3)** Prerequisite(s): History major and HIST 3600 with a grade of C or above. Research seminar examining scholarly trends and debates in the field of Non-Western History. Meets the History major non-Western course requirements; students must achieve a grade of C or above to satisfy major requirements.

**HIST 4003. Topics in Transnational Historiography. (3)** Prerequisite(s): History major and HIST 3600 with a grade of C or above. Cross-listed Course(s): HIST 4003. Research seminar examining scholarly trends and debates in the field of Transnational History. Students must achieve a grade of C or above to satisfy major requirements.

**HIST 4600. Senior Research Seminar. (3)** Prerequisite(s): HIST 3600 with grade of C or above; HIST 4000, HIST 4001, HIST 4002, HIST 4003, or HIST 4797 with grade of C or above; and a History major. A research seminar designed around a specific topic or theme, requiring reading, analysis, discussion, peer review, and a substantial paper.

**HIST 4797. Topics in Honors Historiography and Methodology. (3)** Cross-listed Course(s): HIST 5797. Prerequisite(s): Permission of instructor. The first course in a required two-course sequence for Honors in History. Prepares students for the research and writing of an honors thesis by providing training in historiography, research methods, source development, and writing. During the course, students meet separately with their thesis advisor to craft their prospectus. Students must achieve a grade of A, or a grade of B with permission of instructor, to be able to take HIST 4799. Students must achieve a grade of C to satisfy major requirements.

**HIST 4799. Honors Research and Thesis. (3)** Cross-listed Course(s): HIST 5799. Prerequisite(s): HIST 4797 with grade of A, or with a grade of B and permission of the Honors Director; and approval of a proposal through the Honors College Application to Candidacy process the semester prior to taking the course. The final course in a required two-course sequence for Honors in History. Students write an article-style honors thesis of 25-45 pages and successfully defend it before a faculty committee. A grade for A for the thesis is required to earn honors. Students earning a passing grade on their completed thesis meet the department's senior research seminar requirement (HIST 4600).

# Public Health Sciences (HLTH)

**HLTH 2101. Healthy Lifestyles. (3)** Overview of issues related to personal health, including healthy behaviors, lifestyles, and outcomes.

**HLTH 2102. Foundations of Public Health. (3)** Prerequisite(s): Pre-Public Health major, Health Systems Management major, Public Health minor, or permission of instructor. Introduction to the field of public health, including its history, content areas, scope, and paradigms of professional practice.

**HLTH 2103. Foundations of Global Health. (3)** Prerequisite(s): Pre-Public Health (PRPH) major, Public Health minor, or permission of instructor. Introduction to the study of global health and its theories, perspectives, methods, and evidence.

**HLTH 3000. Topics in Public Health. (1 to 3)** Prerequisite(s): Permission of instructor. Additional prerequisites and credit hours vary with topics. Special topics for intermediate level undergraduates. *May be repeated for credit with change of topic.*

**HLTH 3102. Comparative Healthcare Systems. (3)** Prerequisite(s): Public Health major. Examination of organizations, structures, and relationships in national and international healthcare systems and the associated financial, legal, and policy issues.

**HLTH 3103. Behavior Change Theories and Practice. (3)** Prerequisite(s): Public Health major. Overview of theoretical approaches to health behavior adherence and compliance, including increasing health enhancing behaviors and sustaining healthy behaviors over time.

**HLTH 3104. Research and Statistics in Health. (3)** Prerequisite(s): Public Health major. Examination of the use of research methods and statistics in public health, including issues related to research design, measurement, sampling, and the application and interpretation of statistical methods.

**HLTH 3104L. Research and Statistics in Health Lab. (1).** Prerequisite(s): Public Health major. Corequisite(s): HLTH 3104. Activities designed to complement HLTH 3104. Meets once a week for 1.5 hours.

**HLTH 3105. Public Health Education and Promotion. (3)** Prerequisite(s): Public Health major. Overview of principles and strategies for health education in public health practice settings.

**HLTH 3106. Determinants of Health. (3)** Prerequisite(s): Public Health major. Introduction and examination of socioeconomic, behavioral, biological, environmental, and other factors that impact human health.

**HLTH 3115. Health and the Aging Process. (3)** Cross-listed Course(s): GRNT 3115. Examination of the physiologic processes of aging as a normal life experience. Study of psychological, nutritional and general health issues designed to facilitate high-level awareness.

**HLTH 3200. History of Public Health. (3)** An overview of health and illness from a population perspective, emphasizing the social and historical contexts in which key public health events have occurred. The content provides an historical interpretation of the development of public health – including the battle against infectious disease – across time and in today's world.

**HLTH 3201. Community Engagement. (3)** Prerequisite(s): Pre-Public Health major, Public Health major, Public Health minor, or permission of instructor. Emphasizes the nuances of working with diverse communities toward a positive public health outcome. Includes an analysis of communities and partnering with community agencies to impact public health outcomes.

**HLTH 3202. Peer Health Education. (3)** Prerequisite(s): Pre-Public Health major, Public Health major or minor, or permission of instructor. A multidisciplinary overview of theory and standards of practice intended to prepare students to become peer health educators. Includes an in-depth, intersectional look at mental health, sexual and interpersonal violence prevention, and alcohol and other drug education, outreach, and prevention.

**HLTH 3400. Public Health Internship Preparation. (3)** Prerequisite(s): Public Health major. Foundational preparation for students completing HLTH 4400.

**HLTH 3790. Honors Proposal Seminar. (3)** Prerequisite(s): Admission to Public Health and Health Systems Management Honors Program. The Honors Proposal Seminar is the first of a two-semester sequence which leads to the creation of the Public Health and Health Systems Management Capstone Project. Students will identify an honors thesis committee, complete assigned readings, and develop an honors capstone proposal consistent with departmental and Honors College expectations.

**HLTH 3791. Honors Capstone Seminar. (3)** Prerequisite(s): HLTH 3790; Admission to Public Health and Health Systems Management Honors Program. The Honors Capstone Seminar is the second of a two-semester sequence which leads to the creation and presentation of the Public Health and Health Systems Management Capstone Project. Students will complete the capstone project and formal presentation of

the project, consistent with departmental and Honors College expectations.

**HLTH 4000. Special Topics in Public Health. (1 to 3)** Prerequisite(s): Permission of instructor. Additional prerequisites and credit hours vary with topics. Special topics for advanced undergraduates. *May be repeated for credit with change of topic.*

**HLTH 4090. International Comparative Health Systems. (3)** Cross-listed Course(s): HLTH 5090. A study tour to explore the cultural, social, and healthcare systems outside the United States. Participants visit a variety of healthcare sites and attend presentations by practitioners and educators. They will have opportunities to interact with people from the host countries and visit a variety of cultural and historic sites. *May be repeated for credit with change of topic.*

**HLTH 4102. Public Health Leadership and Policy. (3)** Prerequisite(s): HLTH 3102 and Public Health major. Overview of basic concepts of leadership and policy within public health.

**HLTH 4103. Environmental Health: A Global Perspective. (3)** Prerequisite (for Fall only): Public Health major or permission of instructor. Introduction to environmental and occupational health issues and their implications for individual and population health.

**HLTH 4104. Epidemiology. (3)** Prerequisite(s): HLTH 2102 with a grade of C or above with no concurrent enrollment; and Public Health major or minor, or permission of instructor. Introduction to basic principles and methods used in epidemiology to detect and control disease in populations.

**HLTH 4105. Program Planning and Evaluation. (3)** Prerequisite(s): HLTH 3103 and Public Health major. Use of program planning and behavior change models to design and evaluate theory-based public health promotion and education initiatives.

**HLTH 4105L. Program Planning and Evaluation Lab. (1)** Prerequisite(s): HLTH 3103 and Public Health major. Corequisite(s): HLTH 4105. Activities designed to complement HLTH 4105.

**HLTH 4215. Health Disparities. (3)** An introduction to and examination of key historical events and current issues related to poverty, race/ethnicity, and health disparities, including social, economic, and political issues in ethnic and racial communities, with a special emphasis on theories, concepts, and methods to address the issues.

**HLTH 4260. Women: Middle Age and Beyond. (3)** Cross-listed Course(s): GRNT 4260, GRNT 5260, WGST 4260 and WGST 5260. Position of older women in society and the particular problems of and issues for women as they age with special attention to health issues.

**HLTH 4280. Global Health Issues. (3)** Prerequisite(s): HLTH 2103; and Public Health major or minor; or permission of instructor. Introduction to current issues in global health including disparities, root causes, and strategies for resolution.

**HLTH 4290. Health Management Information Systems. (3)** Overview of the technical, organizational, and management issues confronted by healthcare professionals in the selection, implementation, and management of healthcare information systems.

**HLTH 4400. Public Health Internship. (3)** Prerequisite(s): HLTH 3400, Public Health major, and permission of instructor. Practical experience in a public health setting that complements students' academic and professional goals. Arranged with BSPH Internship Coordinator.

**HLTH 4600. Public Health Capstone. (3)** Prerequisite(s): Public Health major and permission of instructor. A culminating project or experience encompassing the five areas of public health: health behavior, environmental health, biostatistics, epidemiology, and health administration that complements students' academic and professional goals.

**HLTH 4800. Independent Study. (1 to 6)** Prerequisite(s): Permission of instructor. Directed individual study that may take the form of initiating, designing, and/or conducting an original community-based or research project, or critique and synthesis of existing community or research issues. *May be repeated for credit.*

**HLTH 4900. Undergraduate Research. (1 to 4)** Prerequisite(s): Permission of instructor. Opportunity for advanced undergraduate students to work on community or research projects conducted by faculty in their field of interest. *May be repeated for credit.*

# Honors College (HONR)

**HONR 1501. Global Social Science. (3)** Prerequisite(s): Must be a Freshman (FR) or Sophomore (SO). Must be have one of the following attributes: Arts & Arch Honors Program (AAHP), Business Honors Program (BUHP), Department and College Honors (HONR), Levine Scholars-Active (LEVS), Scholarship for Merit Students (SFMS), Joined UHP 30-59 college crs (UHP1), Joined UHP 60+ college crs (UHP2), University Honors Program (UHPR). This Global Theme course uses the methods and insights of the social sciences to explore the central question of what it means to be a citizen of the world. Through the study of one or more different peoples, societies or cultures across the globe, students will be able to better understand themselves as part of a complex, interconnected world. This honors course fulfills the global theme general education requirement in social science. Disciplines within the social sciences may include sociology, political science, education, geography, and more. Students engage in critical thinking and explore different perspectives and issues related to areas outside of the United States. The course explores what it means to be a member of a global community. Students will ask questions about familiar and unfamiliar communities and/or cultures; discuss cultural similarities and differences across space and time; and interpret events, issues, problems, etc. from familiar and unfamiliar worldviews. As part of the university requirement for themes courses, students will complete a perspectives assignment. While the general aim of the course will remain the same, the content will be determined by respective faculty members. An honors theme course is characterized by inquiry, writing/revising, smaller class sizes, group discussions, and active learning.

**HONR 1502. Global Arts/Humanities. (3)** Prerequisite(s): Must be enrolled in one of the following Classes: Freshman (FR) or Sophomore (SO). Must be enrolled in one of the following Attributes: Arts & Arch

Honors Program (AAHP), Business Honors Program (BUHP), Department and College Honors (HONR), Levine Scholars-Active (LEVS), Scholarship for Merit Students (SFMS), Joined UHP 30-59 college crs (UHP1), Joined UHP 60+ college crs (UHP2), University Honors Program (UHPR). This Global Theme course uses the methods and insights of the arts and humanities to explore the central question of what it means to be a citizen of the world. Through the study of one or more different peoples, societies or cultures across the globe, students will be able to better understand themselves as part of complex, interconnected world. This honors course fulfills the global theme general education requirement for the arts and humanities. Disciplines within the arts and humanities may include philosophy, religion, history, language arts, performing arts, and visual arts and more. Students engage in critical thinking and explore different perspectives and issues related to areas outside of the United States. The course explores what it means to be a member of a global community. Students will ask questions about familiar and unfamiliar communities and/or cultures; discuss cultural similarities and differences across space and time; and interpret events, issues, problems, etc. from familiar and unfamiliar worldviews. As part of the university requirement for themes courses, students will complete a perspectives assignment. While the general aim of the course will remain the same, the content will be determined by respective faculty members. An honors theme course is characterized by inquiry, writing/revising, smaller class sizes, group discussions, and active learning.

**HONR 1511. Local Social Science. (3)** Prerequisite(s): Must be enrolled in one of the following Classes: Freshman (FR) or Sophomore (SO). Must be enrolled in one of the following Attributes: Arts & Arch Honors Program (AAHP), Business Honors Program (BUHP), Department and College Honors (HONR), Levine Scholars-Active (LEVS), Scholarship for Merit Students (SFMS), Joined UHP 30-59 college crs (UHP1), Joined UHP 60+ college crs (UHP2), University Honors Program(UHPR). This Local Theme course uses the methods and insights of the social sciences to explore the central question of what it means to be a member of a "local" community. Through the study of the experiences of different peoples, cultures, and communities in our city, our region, or our nation students will be able to better understand the complexity and diversity of the society in which we live. This honors course fulfills the local theme general education requirement in social science. Disciplines within the social sciences may include sociology, political science, education, geography, and more. Students engage in critical thinking and explore different perspectives and issues related to areas within the United States. The course explores what it means to be a member of a local community. Students will ask questions about familiar and unfamiliar communities and/or cultures; discuss cultural similarities and differences across space and time; and interpret events, issues, problems, etc. from familiar and unfamiliar worldviews. As part of the university requirement for themes courses, students will complete a perspectives assignment. While the general aim of the course will remain the same, the content will be determined by respective faculty members. An honors theme course is characterized by inquiry, writing/revising, smaller class sizes, group discussions, and active learning.

**HONR 1512. Local Arts/Humanities. (3)** Prerequisite(s): Must be enrolled in one of the following Classes: Freshman (FR) or Sophomore (SO). Must be enrolled in one of the following Attributes: Arts & Arch Honors Program (AAHP), Business Honors Program (BUHP), Department and College Honors (HONR), Levine Scholars-Active (LEVS), Scholarship for Merit Students(SFMS), Joined UHP 30-59 college crs (UHP1), Joined UHP 60+ college crs (UHP2), University Honors Program(UHPR). This Local Theme course uses the methods and insights of the arts and humanities to explore the central question of what it means to be a member of a "local" community. Through the study of the experiences of different peoples, societies, cultural traditions, and modes of expression in communities at the city, regional, or national level, students will be able to better understand the complexity and diversity of the society in which we live. This honors course fulfills the local theme general education requirement for the arts and humanities. Disciplines within the arts and humanities may include philosophy, religion, history, language arts, performing arts, and visual arts and more. Students engage in critical thinking and explore different perspectives and issues related to areas within the United States. The course explores what it means to be a member of a local community. Students will ask questions about familiar and unfamiliar communities and/or cultures; discuss cultural similarities and differences across space and time; and interpret events, issues, problems, etc. from familiar and unfamiliar worldviews. As part of the university requirement for themes courses, students will complete a perspectives assignment. While the general aim of the course will remain the same, the content will be determined by respective faculty members. An honors theme course is characterized by inquiry, writing/revising, smaller class sizes, group discussions, and active learning.

**HONR 1700. University Honors Program Colloquium. (1)** Prerequisite(s): Good standing in the University Honors Program. Introduces University Honors Program (UHP) students to scholarship, community engagement, and leadership opportunities within the Honors, University, and Greater Charlotte communities. The class format is inquiry and discussion driven. Students participate in an experiential learning opportunity through the National Collegiate Honors Council's City as Text™ program. This course is offered only in the Fall semester for incoming UHP students.

**HONR 2530. Critical Thinking and Communication. (3)** This honors course fulfills the Critical Thinking Competency general education requirement. A series of opportunities to think critically and practice process-oriented communication on the subjects of identity, belonging, and community, particularly by way of the forms – social forms, but also forms of speech, writing, and artistic expression – that bring them into being. In addition to providing opportunities for strengthened verbal communication about community-relevant topics typically considered difficult to talk about, this course delivers techniques in the fundamentals of evidence-based argumentation, persuasive writing, the delivery and receipt of useful feedback, and purposeful intellectual inquiry – all in a way that will prepare students for future honors-level work (particularly the senior capstone).

**HONR 2720. Competitive Scholarship Workshop. (1)** Provides a supportive workshop environment for researching, drafting, developing, and revising material towards nationally competitive scholarships. Activities and assignments include academic resumes, personal statements, research statements, frequently appearing short-answer questions, and interviewing practice. By the end of the course, students develop a malleable set of application materials that can be repurposed for multiple relevant scholarship opportunities.

**HONR 2750. Community Service Laboratory. (1)** Prerequisite(s): Permission of the University Honors Program. Investigate and demonstrate how individuals can make a difference in the human condition. Students enrolled attend weekly seminar meetings. Relationships between the volunteer individual and community agencies

served are examined within the context of problem-solving strategies and social/political justice. Impact of volunteerism upon human rights is explored. *May be repeated for credit with change of topic and coursework. Offered on a Pass/No Credit basis.*

**HONR 3700. Honors College Topics. (3)** Prerequisite(s): CTCM 2530 or LBST 2301. A seminar course taught by faculty members from different disciplines on interdisciplinary topics. The course is typically characterized by small class sizes, stimulating discussions, engagement in interdisciplinary or disciplinary inquiry, writing and revising, and presentation of an inquiry-based, interdisciplinary or disciplinary product (at a smaller scale than a capstone project). *May be repeated for credit with change of topic and coursework.*

**HONR 3703. Honors Study Abroad. (3)** Prerequisite(s): Permission of the Honors College or instructor. The course is for honors students, merit scholars, and Levine scholars. Learning does not just happen in the classroom. It also happens through structured experience, exploration, inquiry, and observation outside the classroom. Predetermined location(s) outside the United States will support our course curriculum for this study abroad course. By engaging fully in this destination, students from a variety of majors will experience different cultures, life experiences, people, and worldviews through an immersive exploration of important cultural sites and unique locations. This transformational experience offers students a deeper understanding of the global community while also strengthening the community of honors students and merit and Levine scholars.

**HONR 3790. University Honors Program Capstone Proposal Seminar. (1 to 3)** Prerequisite(s): University Honors Program member in good standing and with all other UHP course requirements completed, or permission of instructor. Students in the University Honors Program (UHP) must complete an honors capstone project in order to graduate with University Honors. Students can satisfy this requirement by applying to a disciplinary honors program and completing a disciplinary capstone or thesis project (leading to dual honors; available for most majors on campus), or can complete their capstone project in UHP by completing HONR 3790 and HONR 3791. In HONR 3790, students will identify an interdisciplinary inquiry question, conduct a review of scholarly literature on their topic, select a faculty committee, and submit an application to candidacy to the Honors College. Upon successful completion of HONR 3790, students will continue to HONR 3791 to develop and lead seminars on their topic for incoming UHP students as their capstone project. Both courses provide opportunities for collaborative work with peers, group discussions, reflection, and feedback.

**HONR 3791. University Honors Program Capstone Project. (3)** Prerequisite(s): HONR 3790 with grade of A; University Honors Program member in good standing; and approved Honors College Application to Candidacy. Students in the University Honors Program (UHP) must complete an honors capstone project in order to graduate with University Honors. Students can satisfy this requirement by applying to a disciplinary honors program and completing a disciplinary capstone or thesis project (leading to dual honors; available for most majors on campus), or can complete their capstone project in UHP by completing HONR 3790 and HONR 3791. Students will complete their review of the scholarly literature begun in HONR 3790 and design and lead seminars for a small group of incoming honors students. This work is undertaken under the mentorship of an honors faculty committee selected by the student. This course provides the opportunity for collaborative work with peers, group discussions, reflection, and feedback.

**HONR 3800. Honors Independent Study. (1 to 3)** Prerequisite(s): CTCM 2530; Permission of the Honors College; Honors students and merit scholars who currently have an honors GPA of at least 3.2 and overall GPA of 3.0; Upper division students (Juniors and Seniors). This course is for honors students or merit scholars who have been approved by their Honors College advisor and associate dean to complete an independent study under the supervision of an honors instructor. The course may only be used as a substitute HONR 3700, HONR 3790, or HONR 3791. *May be repeated for credit with change of topic or coursework if the student needs it to complete their 2 honors capstone courses.*

# Health Systems Management (HSMT)

**HSMT 2101. Introduction to the Health Systems Management. (3)** Prerequisite(s): Sophomore standing; no more than two attempts. Introduction to the various systems that comprise the health system and how they work together to support population health, the aim of the larger system. Exposure to germane topics, work settings, trends, skills, and knowledge bases within the health system. Introduction to career options with the Health Systems Management degree.

**HSMT 2102. Healthcare Language and Terminology. (3)** An introduction to professional communications and vocabulary used in the healthcare field. Emphasis is placed on the fundamentals of terminology and communication. Clinical vocabularies, terminologies, and coding systems, along with definitions, are described in the context of caring for and treating patients. *May be repeated once with an original grade of D or F.*

**HSMT 2103. Introduction to Human Resources Management. (3)** Prerequisite(s): Sophomore standing; no more than two attempts. Introduction to human resources management as it applies to health and human services institutions, including recruitment, selection, training, and development. Emphasis is placed upon understanding the basic functions of a manager and the role of leading. Major theories associated with motivating the individual in organizations, interpersonal and group behavior, job design, organizational processes of decision-making, communication, and change are addressed. Consideration is given to the influence of personal values and ethical frameworks on the processes of managing and leading.

**HSMT 2104. Introduction to the U.S. Healthcare System. (3)** Prerequisite(s): Health Systems Management major or College of Health and Human Services pre-major; Sophomore standing; no more than two attempts. An overview of the organization and delivery mechanisms in the U.S. healthcare system. Various settings for the delivery of healthcare and personnel and financial resources integral to the delivery of care are presented. Also included are the historical development and future growth and direction of the system.

**HSMT 2105. Population Health Essentials for Health Systems Managers. (3)** Prerequisite(s): HSMT 2101 and HSMT 2103 with grade C or above within two attempts; Sophomore standing; no more than two attempts. Discussion of current and emerging topics in the field of health.

The course covers foundational public health knowledge identified by the Council on Education for Public Health (CEPH) as essential. This course imparts a population health framework from which to view and analyze health and health services delivery systems.

**HSMT 3000. Special Topics. (3)** Prerequisite(s): HSMT 2101 and HSNT 2103 with grade of C or above within two attempts; Health Systems Management or permission of the instructor. Discussion of current and emerging topics in the field of health. *May be repeated for credit with change of topic.*

**HSMT 3104. Health Information Systems. (3)** Prerequisite(s): Health Systems Management major and Junior Standing; no more than two attempts; and HSMT 2101 and HSMT 2104 with grades of C or above within two attempts. Health information systems include a variety of information technology used in healthcare settings to collect, store, disseminate, and manage health data. These systems provide healthcare in a more efficient, effective, and economical manner. Various applications for information technology in a healthcare setting are emphasized, as well as their potential benefits.

**HSMT 3201. Health System Leadership, Ethics, and Inter-Professional Communication. (3)** Prerequisite(s): HSMT 2101, HSMT 2103, and HSMT 2104 with grades of C or above within two attempts; Health Systems Management major and Junior Standing; no more than two attempts. Examination of leadership skills and communication development. Analysis of ethical and bioethical problems confronting health systems. Contemporary issues confronting organizations and people who work to promote, restore, or maintain health are examined. The course also serves as a continuation of the design and development of student ePortfolios.

**HSMT 3203. Introduction to Healthcare Accounting and Finance. (3)** Prerequisite(s): HSMT 2101 and HSMT 2103 with grades of C or above within two attempts; Health Systems Management major and Junior Standing; no more than two attempts. Basic concepts and techniques of collecting, processing, and reporting financial information relevant to healthcare institutions. Fundamental financial management concepts and tools for healthcare institutions, including financial statements and attributes.

**HSMT 3204. Health System Organization Development and Behavior. (3)** Prerequisite(s): Health Systems Management major and Junior Standing; no more than two attempts; and HSMT 2101, HSMT 2103, and HSMT 2104 with grades of C or above within two attempts. Introduction to organizational theory with applications to healthcare systems, including organizational design and inter-organizational networks and alliances.

**HSMT 3301. Health Insurance and Managed Care. (3)** Prerequisite(s): HSMT 3203 within two attempts; Health Systems Management major, and Junior standing. An overview of the design, management, and regulation of health insurance and managed care organizations in the U.S. healthcare system. Various settings for the delivery of healthcare and personnel and financial resources integral to the delivery of care are presented. Also included are the historical development and future growth and direction of the health insurance system.

**HSMT 4201. Health Policy and Law. (3)** Prerequisite(s): HSMT 3201 with grade of D or above within two attempts; and Health Systems Management major and Senior Standing; no more than two attempts. Examination of the formulation, adoption, and implementation of public policy for health services delivery and healthcare through federal, state, and local political processes. Selected legal principles and their application to the healthcare field.

**HSMT 4202. Quality Management and Improvement. (3)** Prerequisite(s): Health Systems Management major and Senior Standing; no more than two attempts; HSMT 3104, and HSMT 3204 with grade D or above within two attempts. Examination of the concepts and practices of quality management, performance improvement, and assessment of outcomes in healthcare delivery settings; the application of quality management theory to healthcare product and service outcomes.

**HSMT 4301. Peer Advising. (3)** Prerequisite(s): HSMT 2104, HSMT 3201, Health Systems Management major, minimum 3.0 GPA, and apply for and be accepted into this course. Students competitively selected as Health Systems Management (HSMT) Peer Advisors learn and apply strategies in peer-to-peer communication to assist students with navigating the HSMT curriculum, policies, and procedures. Students translate and analyze how these strategies can be utilized in their own professional development as they transition to leadership roles as early career professionals. *May be repeated for credit one time.*

**HSMT 4600. Health Systems Management Capstone. (3)** Prerequisite(s): Health Systems Management and Senior Standing; no more than two attempts; HSMT 2101, HSMT 2103, HSMT 2104 and HSMT 2105 with grades of C or above within two attempts; and HSMT 3104, HSMT 3201, HSMT 3203, and HSMT 3204 with grades of D or above within two attempts. Students synthesize and apply lessons learned throughout the Health Systems Management program. Students analyze a current challenge impacting local health and wellness agencies and work as a team to propose strategies and solutions. Individually, students develop ePortfolios that include work samples and reflections as a digital record of lessons learned and their professional development.

**HSMT 4700. Health Systems Management Internship. (3)** Prerequisite(s): Health Systems management major, acceptance into departmental honors program, and permission of department. Practical experience in a health and human services setting that complements students' academic and professional goals. Arranged with the HSMT program director.

**HSMT 4701. Healthcare Analytics I. (3)** Prerequisite(s): Health Systems Management major, acceptance into departmental honors program, and permission of department. Introduction to foundational skills and knowledge in healthcare data analytics. An overview of sources of data in healthcare, including electronic medical record data warehouses, social media databases, wireless biosensors, and patient-provider portal metadata.

**HSMT 4702. Healthcare Analytics II. (3)** Prerequisite(s): HSMT 4701. Continuation of HSMT 4701. Student works with a team on a project topic of their choice related to a healthcare decision. Each team writes a proposal, protocol, statistical analysis plan, and presents both a written and oral final report. Data needs are assessed and presented during the protocol stage. Students use statistical analysis software (SAS, Stata, SPSS, Excel, etc.) to complete the project.

**HSMT 4790. Health Systems Management Study Abroad. (3)** Prerequisite(s): Health Systems management major, acceptance into departmental honors program, and permission of department. A study tour for students. Participants have an opportunity to explore healthcare systems outside the United States, and improve their global understanding of people, culture, and indigenous healthcare practices. Participants visit a variety of healthcare sites and attend presentations by practitioners and educators. Cultural experiences and academic study are a focus.

**HSMT 4800. Independent Study. (1 to 3)** Prerequisite(s): Permission of instructor. Guided individual study in an issue related to the field of health systems management arranged with a faculty member or a supervised experience in a health systems management related setting. *May be repeated for credit one time.*

# International Business (IBUS)

**IBUS 3000. Topics in International Business. (3)** Prerequisite(s): Permission from the Director of Global Business Studies (GBS). Topics from areas of international business. This course *May be repeated for credit with change of topic.*

**IBUS 3400. International Business Internship. (3)** Prerequisite(s): International Business major, Junior or Senior in good standing, and permission of instructor. Provides a meaningful work experience in the field of international business. Requires a minimum of 150 hours of supervised employment, 50 hours of work per credit hour. At least 80% of the student's work must be international in nature. While the internship experience is not required to be performed outside the U.S., it is strongly encouraged. Students are responsible for securing their own internship and completing the internship application and approval process prior to registering for the course. Internship must be approved by instructor. Application process and course registration must be completed prior to beginning internship. All proposals are subject to departmental approval. Students may not earn internship credit for work at a current employer. May be used to meet requirements of a major elective, up to a maximum of three credit hours. *May not be repeated for credit. Graded on a Pass/No Credit basis.*

# Interdisciplinary Studies (IDST)

**IDST 3100. Interdisciplinary Research Methods. (3)** Prerequisite(s): Interdisciplinary Studies major or permission of instructor. An overview of qualitative and quantitative methods that are commonly used across academic disciplines and in interdisciplinary research. Examines epistemological considerations that go into crafting an original research question, developing an appropriate research design, and critically analyzing evidence. These include exploring philosophical worldviews, reviewing relevant literature, understanding the relationship between theory and methods, considering ethical issues, and assessing the reliability of data. By studying methods across academic fields, students learn to engage with a broad range of existing scholarship and build a foundation for conducting their own interdisciplinary research.

# Management Information Systems (INFO)

**INFO 2130. Introduction to Business Computing. (3)** Introduction of computer methods to solve business problems. Emphasis on understanding fundamental hardware and software concepts, selecting and using appropriate hardware and software needed for making various business decisions, and developing practical methods for using the computer to solve quantitative business problems. (May not be taken for upper-level credit in business, but may be taken for general University credit.)

**INFO 3000. Topics in Management Information Systems. (3)** Prerequisite(s): INFO 3233 with grade of C or above. Topics from the area of Management Information Systems. *May be repeated for credit.*

**INFO 3130. Management Information Systems. (3)** Prerequisite(s): ACCT 2121, ACCT 2122 or ACCT 3323, ECON 2101, ECON 2102, MATH 1120, INFO 2130, and STAT 1220 with grades of C or above; College of Business major; and Junior or Senior standing. Impact of information systems on management decision-making activities. Principles of the structure and analysis of information flows within an organization. Emphasis on database accumulation and generation, capabilities of information processing, system function (e.g., file creation, report generation, etc.) and evaluation and modification of information systems.

**INFO 3221. Programming for Business Analytics. (3)** Prerequisite(s): INFO 2130 with grade of C or above and Junior or Senior standing, or permission of the department. A study of fundamental programming constructs and concepts required for solving data analytics problems. Emphasizes the use of widely adopted industry platforms such as Python and R to extract, transform, and make use of business data.

**INFO 3229. Business Data Communications and Information Security. (3)** Pre- or Corequisite(s): INFO 3130 with grade of C or above; and Management Information Systems or Operations and Supply Chain Management major or minor, or permission of department. A study of the current and potential impact of computer data communications technologies and information security on business operations and productivity. Topics include: designing, planning and implementing solutions in such areas as local area networks, networked applications, and information assurance.

**INFO 3230. Enterprise Systems. (3)** Prerequisite(s): INFO 2130 with grade of C or above; and Management Information Systems or Operations and Supply Chain Management major or minor, or permission of department. A problem-solving based overview of enterprise systems. Through experiential learning, students understand how business processes such as sales, logistics, production, procurement, finance, accounting and human resources are supported in ERP software. Students also learn how to configure an ERP system to meet best practices.

**INFO 3231. Business Applications Development. (3)** Prerequisite(s): INFO 2130 with grade of C or above; and Management Information Systems major or minor, or permission of department. A study in the development of business applications software. Course emphasizes graphical user interface development using object-oriented, event-

driven programming methods and techniques with a high-level development tool such as Visual Basic or Java.

**INFO 3232. International Information Systems Management. (3)** Prerequisite(s): INFO 3130 with a grade of C or above. Study of issues and challenges relating to International Information Systems. Topics include: planning and strategic implications of using global information systems and technology; management of global information flows; and, the problems of integrating technology, systems, and people across the globe.

**INFO 3233. Data and Information Management. (3)** Pre- or Corequisite(s): INFO 3130 with grade of C or above; and Business Analytics, Management Information Systems, Operations and Supply Chain Management, or Marketing major or minor, or permission of department. A study of and implementation of databases for business applications. Exploration of basic concepts of design and the use of SQL to create and manipulate corporate databases.

**INFO 3234. Business Information Systems Analysis and Design. (3)** Pre- or Corequisite(s): INFO 3233 with grade of C or above; and Management Information Systems major or minor, or permission of department. Examination of business information systems from the perspective of the systems analyst to provide an understanding of concepts, processes and techniques as they are applied to the systems development life cycle. Emphasis on the use of structured and object-oriented techniques to manage the complexities involved in the analysis phase of systems development.

**INFO 3236. Business Analytics. (3)** Prerequisite(s): Junior or Senior standing; and Business Analytics, Management Information Systems, Operations and Supply Chain Management, Economics, Finance (Finance concentration only), Business Administration, Marketing major or minor, or permission of department. Various data mining and business intelligence methods, such as rule-based systems, decision trees, and logistic regression. Query and reporting, online analytical processing (OLAP) and statistical analysis. Issues relating to modeling, storing, securing, and sharing the organizational data resources.

**INFO 3237. Business Analytics II. (3)** Prerequisite(s): INFO 3221, INFO 3233, and INFO 3236 with grades of C or above. Focuses on building predictive analytics and understanding and applying a variety of machine learning models. The class is hands-on, and the emphasis is placed on the "know-how" aspect - how to apply business analytics to improve business decision-making.

**INFO 3238. Social Media Analytics and Application. (3)** Pre- or Corequisite(s): INFO 3130. An integrative approach to social media opportunities for achieving business, marketing, organizational, and personal goals. The emphasis is on social media environment, social network data, social network analysis, and social media analytics and application.

**INFO 3239. Artificial Intelligence in Business. (3)** Prerequisite(s): INFO 2130; MIS and Business Analytics majors. AI for Business is a course designed to equip students with the knowledge and skills needed to leverage generative AI and Large Language Models (LLMs) in business contexts. This course will delve into the core mechanisms of generative AI, focusing on Large Language Models (LLMs). Participants will explore advanced techniques in prompt engineering, retrieval augmented generation (RAG), agentic systems, fine-tuning LLMs, and ensuring the ethical governance of AI technologies. The curriculum balances conceptual frameworks with hands-on exercises, enabling participants to apply generative AI innovations to real-world business challenges.

**INFO 3240. eBusiness Systems. (3)** Prerequisite(s): INFO 3231 with grade of C or above; and Management Information Systems major or minor, or permission of department. Pre- or Corequisite(s): INFO 3234 with grade of C or above. A study of the evolving information technologies facilitating electronic business (eBusiness) and the business practices and strategies used to compete in the new wired global marketplace. Topics include: the infrastructure for eBusiness, new business strategies and models, web design, and management strategies, and an exploration of a variety of technologies involved in eBusiness.

**INFO 3400. Management Information Systems Internship. (3)** Prerequisite(s): Junior or Senior in good standing and department approval. Provides a meaningful work experience in the field of management information systems. Requires a minimum of 150 hours of supervised employment, 50 hours of work per credit hour. Students are responsible for securing internship and completing internship application and approval process prior to registering for the course. Internship must be approved by instructor. Application process and course registration must be completed prior to beginning internship. All proposals are subject to departmental approval. Students may not earn internship credit for work at a current employer. May be used to meet requirements of a major elective, up to a maximum of three credit hours. *May not be repeated for credit. Graded on a Pass/No Credit basis.*

**INFO 3401. Management Information Systems Internship. (1 to 6)** Prerequisite(s): Junior or Senior in good standing and department approval. Full- or part-time academic year internship in areas complementary to the concentration area of studies and designed to allow theoretical and course-based practical learning to be applied in a supervised industrial experience. Requires 50 hours of supervised employment per hour of credit. Each student's internship program must be approved by the supervising faculty. A proposal form must be completed and approved prior to registration and the commencement of the work experience. A mid-term report and a final report to be evaluated by the supervising faculty are required. Grading will be by the supervising faculty and could be in consultation with off-campus supervisor at the internship organization. *Graded as a letter grade.* A student who is employed with applying for this Management Information Systems internship may not earn internship credit through work for the current employer. May be used to meet requirements of a major elective, up to a maximum of three credit hours.

**INFO 3500. Management Information Systems Cooperative Education Experience. (0)** Prerequisite(s): Management Information Systems major. Enrollment in this course is required for the department's cooperative education students during any semester they are working in a position. Participating students pay a course registration fee for transcript notation. Assignments must be arranged and approved in advance. The Cooperative Education Program is only open to undergraduate students; graduate level students are encouraged to contact their academic departments to inquire about academic or industrial internship options for credit. For more information, contact the University Career Center. *May be repeated. Graded on a Satisfactory/Unsatisfactory basis.*

**INFO 3800. Directed Study. (1 to 6)** Prerequisite(s): Permission of department and Junior or Senior standing. Enrollment granted only by permission of the faculty with whom the work will be performed. The student's work assignments will be designed by the student and faculty member who will oversee the project of study. The credit hours will be determined prior to enrollment and will be based on the particular project undertaken.

**INFO 4214. AI for Business Competitive Advantage. (3)** Prerequisite(s): INFO 3221. AI in Business Minor; BSBA majors in MIS and Business Analytics. Explores the transformative potential of artificial intelligence (AI) in business, equipping students with strategic, managerial, and ethical frameworks for navigating the AI era. Designed for future leaders, it demystifies AI technologies such as machine learning, neural networks, and generative AI. The course will contribute to preparing students to apply AI responsibly and ethically to support effective decision-making, improve efficiency, and advance organizational operations.

# Artificial Intelligence (ITAI)

**ITAI 1600. Artificial Intelligence Literacy for Professional Success. (3)** Prerequisite(s): Major in Artificial Intelligence. AI literacy is a set of competencies that enables individuals to critically evaluate AI technologies; communicate and collaborate effectively with AI; and use AI as a tool for school, at home, and in the workplace. The following questions frame the learning objectives of this course: What is AI?; How can I effectively interact with Generative AI?; What is the responsible use of AI? What are the broader social implications of AI? Guest speakers, including industry partners, discuss and explain aspects of a professional career in the field of AI and provide an overview of AI based on historical and current developments. Students will engage with case studies of the use of AI to support learning, ethical and responsible issues in the use of AI, and develop critical reviews of responses from generative AI such as the GPT models. Assignments include critical reviews of reading materials and the use of a generative AI tool.

**ITAI 2153. Introduction to Artificial Intelligence and Ethics. (3)** Prerequisite(s): ITSC 1213 with grade of C or above; Major in Artificial Intelligence. Pre- or Corequisite(s): ITAI 1600. A practical introduction to artificial intelligence, emphasizing both the development of AI applications and the ethical considerations inherent in their deployment. Students will engage in hands-on projects using a high-level programming language and accessible open-source AI tools and APIs. They will explore key machine learning concepts, including supervised, reinforcement learning and generative AI, while also critically analyzing ethical challenges, including explainability and trustworthiness of AI systems.

**ITAI 3155. Artificial Intelligence Systems Projects. (3)** Prerequisite(s): ITAI 2153. Students will apply artificial intelligence (AI) concepts and techniques to real-world problems through projects. The course emphasizes the use of AI, in particular, generative models, across all phases of the software development lifecycle. Students will learn how to integrate AI tools to support requirements analysis, design, coding, testing, documentation, and maintenance, with particular emphasis on prompt engineering and the practical evaluation of AI-assisted development workflows. Working in teams, students will deploy modern AI techniques to build AI-driven software prototypes.

**ITAI 4153. Introduction to Machine Learning Operations. (3)** Prerequisite(s): ITSC 2214 with grade of C or above. Pre- or Co-requisite(s): ITCS 3156. A comprehensive introduction to the key components of the machine learning (ML) project lifecycle, integrating essential practices from machine learning, DevOps, and data engineering. Through hands-on learning, students will gain practical experience in deploying and maintaining ML models in production environments reliably and efficiently.

**ITAI 4154. AI-Driven Trustworthy Software Development. (3)** Prerequisite(s): ITSC 3155 and (ITAI 2153 OR ITCS 3156). This project-oriented course explores the integration of Artificial Intelligence (AI) with software development, covering multiple phases of the Software Development Lifecycle (SDLC), including planning, designing, coding, debugging, refactoring, testing, deployment, and management. A key focus is on how Large Language Models (LLMs) and Generative AI are reshaping development practices, especially considering trust and trustworthiness properties (encompassing security, reliability, privacy, and maintainability). Through an hands-on project, students will critically examine both the potential and risks of LLMs, such as biases and inaccuracies, in enhancing software trustworthiness. By working on a real-world (or realistic) application, students will apply AI-driven development tools, assess trustworthiness, and implement strategies to mitigate risks. This course emphasizes practical experience, enabling students to responsibly leverage LLM-based tools to build trustworthy software systems that meet industry standards.

**ITAI 4155. Artificial Intelligence Development Projects. (3)** Prerequisite(s): ITAI 2153 and ITSC 3155 and ITCS 3156; Senior standing or permission of department. Students will apply artificial intelligence (AI) techniques to real-world problems through a capstone project experience. Students will explore the complete project development lifecycle, from problem identification and requirement analysis to solution design, implementation, testing, deployment, and evaluation. Emphasis will be placed on leveraging AI methodologies such as machine learning, deep learning, natural language processing, computer vision, and generative AI techniques. Students will work in teams to develop AI-driven software prototypes.

**ITAI 4160. Databases and Cloud for Artificial Intelligence. (3)** Prerequisite(s): ITSC 1213 (C or Above), ITSC 2181 (C or Above). Explores the intersection of data management, cloud computing, and artificial intelligence, focusing on structured and unstructured data storage, processing, and analytics in scalable cloud environments for AI applications. Topics include relational and NoSQL databases, data modeling, statistical analysis, data wrangling, and big data processing. Students will gain hands-on experience with a cloud platform to build data pipelines and automate AI workflows and develop practical skills in managing and analyzing large-scale data to support AI and machine learning applications.

# Computer Science (ITCS)

**ITCS 1101. Introduction to Computer Concepts. (3)** Pre- or Corequisite(s): MATH 1100, MATH 1101, MATH 1103, MATH 1120, or MATH 1241. Introductory course that gives an overview of computer hardware and software. Primary emphasis is on productivity software (word processing, spreadsheet, and graphical presentation). These

applications are taught through a series of projects/assignments. Aspects of Internet research are also covered.

**ITCS 1102. Advanced Internet Concepts. (3)** An advanced study of the Internet environment designed for any student who is familiar with office productivity tools and a user of Internet technologies; it addresses advanced concepts of computer literacy. Topics include: concepts of website design and how to evaluate websites; proper use of synchronous and asynchronous communication tools (e.g., chat, email, IM); issues of copyright and cyber-ethics; using the Internet to do research; and publishing via the Internet. Other topics may be added to keep the content current and relevant. Students complete extensive Internet-oriented projects to demonstrate mastery of the skills discussed in class. *This course may not be taken for credit by students with a major or minor in the College of Computing and Informatics.*

**ITCS 1301. Introduction to the Financial Services Industry. (3)** An overview of the financial services industry, including such areas as the industry components; regulatory considerations and their impact; and relations with other institutions.

**ITCS 1610. Computing Applications Seminar. (3) (SL)** Prerequisite(s): MATH 1100, MATH 1101, MATH 1103, MATH 1120, or MATH 1242. A service-learning seminar course designed to emphasize the social relevance of computing. The course aims to inform non-computing specialists of computing technologies, research, and career opportunities. Seminar topics are intended to enhance disciplinary knowledge and to develop leadership skills related to using computing knowledge and skills in service to society. Emphasis placed on the basic concepts of leadership theory and its application within the computing discipline on an individual, group, and societal level. Students participate in team-based computing service-learning projects in the community, in conjunction with computing majors taking ITSC 3610. Student performance evaluation considers individual homework assignments, participation in team projects, and class participation.

**ITCS 1712. Introduction to Computer Science (Honors). (3)** Pre- or Corequisite(s): MATH 1120 or MATH 1241; restricted to CCI Honors students, or an acceptable score on the ITCS 1712 placement test. Introduction to algorithmic problem solving using high level programming languages. Basic programming concepts (decision making, iteration, subroutines) and data types (atomic and aggregates) will be taught in C++ and Java. Advanced concepts such as pointers, references, and polymorphism will be explored.

**ITCS 2050. Topics in Computer Science. (1 to 3)** Prerequisite(s): Permission of department. Topics in computer science selected to supplement the regular course offerings at the 2000 level. *May be repeated for credit with permission of department. (Additionally, Students may register for multiple sections of the course with different topics in the same semester or in different semesters.)*

**ITCS 2116. C Programming. (3)** Prerequisite(s): Knowledge of any other computer programming language or permission of department. A study of the programming language C. Data types, operators, functions, program structure, file I/O, storage classes, exceptions, concurrent programming, and the preprocessor.

**ITCS 2215. Design and Analysis of Algorithms. (3)** Prerequisite(s): MATH 1120 or MATH 1241; ITSC 2175 or MATH 1165; and ITSC 2214. Introduction to the design and analysis of algorithms. Design techniques: divide-and-conquer, greedy approach, dynamic programming. Algorithm analysis: asymptotic notation, recurrence relation, time space complexity and tradeoffs. Study of sorting, searching, hashing, and graph algorithms.

**ITCS 2301. Financial Services Computing Environment. (3)** Prerequisite(s): ITCS 1301. Students gain insights on several key components in financial computing environments and the enabling technologies.

**ITCS 3050. Topics in Computer Science. (1 to 3)** Prerequisite(s): Permission of department. Topics in computer science selected to supplement the regular course offerings at the 3000 level. *May be repeated for credit with permission of department. (Additionally, Students may register for multiple sections of the course with different topics in the same semester or in different semesters.)*

**ITCS 3112. Design and Implementation of Object-Oriented Systems. (3)** Prerequisite(s): ITSC 2214. In-depth exploration of object-oriented programming and system development. Topics include: evolution of object-oriented methodology; concept of the object-oriented approach; object-oriented programming languages; object-oriented analysis and design; the design of software for reuse; and incremental software development.

**ITCS 3120. Introduction to Interactive Computer Graphics. (3)** Prerequisite(s): ITSC 2214 and MATH 2164, or permission of department. Introduction to graphics hardware; raster algorithms; event-based programming; shader programming; anti-aliasing methods; matrix algebra for change of coordinates and 2D geometric transformations; 2D viewing transformation and clipping; 2D curves and 2D splines.

**ITCS 3134. Digital Image Processing. (3)** Prerequisite(s): ITSC 2214, MATH 1242, and MATH 2164 with grades of C or above. Overview of fundamentals of image acquisition, representation, enhancement, segmentation, reconstruction, analysis and recognition. Image generation, viewing and perception; image transformations using the Fourier transform; spatial operations and filtering (spatial and frequency domain); image coding; lossless and lossy compression; boundary and region based segmentation; thresholding and classification; boundary and regional image descriptors; matching and neural networks; shape numbers.

**ITCS 3143. Operating Systems. (3)** Prerequisite(s): ITSC 2214 or permission of department. Introduction to multiprogramming operating systems. Process synchronization and management of memory, devices, and files; performance evaluation.

**ITCS 3152. Symbolic Programming. (3)** Prerequisite(s): ITSC 2214. Basic concepts of symbolic programming, including selected topics in artificial intelligence, heuristic searching, symbolic algebra, language parsing, and theorem proving.

**ITCS 3153. Introduction to Artificial Intelligence. (3)** Prerequisite(s): ITSC 2214 with grade of C or above and MATH 2112 with grade of C or above, or MATH 2164 and STAT 2122. Basic AI-related math fundamentals and AI concepts. Topics include: probability theory and information theory; basic search/problem-solving methods, such as uninformed search, informed search, adversarial search, local search,

and constraint satisfaction problem; knowledge representation and reasoning, like propositional logic and inference; probabilistic reasoning such as Bayesian networks, sampling, and decision networks; sequential decision, such as Markov decision processes and reinforcement learning; and machine learning.

**ITCS 3156. Introduction to Machine Learning. (3)** Prerequisite(s): ITSC 2214 with grade of C or above and MATH 2112 with grade of C or above, or MATH 2164 and STAT 2122. Introduction to the machine learning pipeline of data collection, feature creation, algorithms, and evaluation for classification and regression based on the fundamental foundations on Linear Algebra, Probability Theory, and Optimization. The course covers basic concepts, such as training, validation, overfitting, and error rates in addition to commonly used machine learning algorithms, such as linear regression, perceptrons, naive Bayes, logistic regression, neural networks, dimensionality reduction, clustering, and reinforcement learning.

**ITCS 3162. Introduction to Data Mining. (3)** Prerequisite(s): ITSC 2214. The key objectives of this course are two-fold: (1) to teach the basic concepts of data mining and (2) to provide extensive hands-on experience in applying the concepts to real-world business applications. Topics include: Data Collection, Data Preprocessing, Data Exploration, Feature Engineering, Prediction Model, Clustering, Association Analysis, Graph/Network Analysis, Text Mining and Social Media Analysis, and Anomaly Detection.

**ITCS 3166. Introduction to Computer Networks. (3)** Prerequisite(s): ITSC 1213 or permission of department. An in-depth exploration of the principles and technologies that underpin contemporary computer networks and their vital part in today's IT landscape for seamless communication, data sharing, and the growth of emerging technologies. Key elements include: Study of packet communications; Analysis of OSI layered architectures; Study of flow and congestion control protocols at the transport layer; Investigation of routing protocols at the network layer. Students will examine the fundamental concepts and evolving aspects of network technology, including Software-Defined Networking, the provision of AI as a service, the Internet of Things (IoT), and Edge-Computing Networks, along with their practical applications in shaping smart futures (smart cities, smart transportation, smart retail, smart healthcare, and smart manufacturing). Topics Include: Basics of Internet, Network Layer Protocols, Transport Layer Protocols, Application Layer Protocols, Wireless Networking, Emerging Topics on Smart Networked System.

**ITCS 3190. Introduction to Cloud Computing for Data Analysis. (3)** Prerequisite(s): ITSC 2214. Introduction to the principles of cloud computing for data science applications. Focuses on distributed computing, and algorithms for scalable data processing. Topics include: parallel processing, information retrieval, knowledge discovery in databases, web search, computational advertising, and scientific data analysis. Students are expected to bring their laptops to class.

**ITCS 3211. Computing Leaders Team Projects. (1) (SL)** Prerequisite(s): ITCS 1610 or ITSC 3610. A service-learning course that builds upon the leadership concepts from ITSC 3610 through focused hands-on experience with service-learning projects. Students work in teams to apply computing technologies, knowledge and skills to serve community needs. *May be repeated for elective credit.*

**ITCS 3212. Computing Leaders Team Leaders. (1) (SL)** Prerequisite(s): ITCS 1610 or ITSC 3610. A service-learning course that builds upon the leadership concepts from ITSC 3610 through focused hands-on experience with service-learning projects. Companion course to ITCS 3211; students in this course serve as team leaders for the team projects undertaken by students in ITCS 3211. Students lead teams to apply computing technologies, knowledge, and skills to serve community needs. *May be repeated for elective credit.*

**ITCS 3216. Introduction to Cognitive Science. (3)** Cross-listed Course(s): ITIS 3216 and PSYC 3216. Prerequisite(s): PSYC 1101 with grade of C or above, or permission of department. Interdisciplinary introduction to the science of the mind. Broad coverage of such topics as philosophy of mind, human memory processes, reasoning and problem solving, artificial intelligence, language processing (human and machine), neural structures and processes, and vision.

**ITCS 4010. Topics in Computer Science. (1 to 3)** Prerequisite(s): Permission of department. Topics in computer science selected to supplement the regular course offerings at the 4000 level. *May be repeated for credit with permission of department. (Additionally, students may register for multiple sections of the course with different topics in the same semester or in different semesters.)*

**ITCS 4101. Introduction to Natural Language Processing. (3)** Prerequisite(s): ITSC 3156 (C or better). Natural Language Processing (NLP) is a branch of Artificial Intelligence (AI) concerned with developing computer systems that can analyze or generate natural language. This course introduces the main concepts and techniques underlying widely used NLP applications such as text classification, machine translation, question answering, or conversational AI. Topics include: Linguistic analysis tasks, including tokenization, word representations, syntactic and semantic parsing, and coreference resolution; string processing and regular expressions; machine learning models for text processing, including recurrent neural networks and Transformer; language models (LM); ethical considerations and limitations of NLP models.

**ITCS 4102. Programming Languages. (3)** Prerequisite(s): ITCS 2214. Formal definition of programming languages, including specification of syntax and semantics. Evolution of programming languages and language design principles. Structural organization, control structures, data structures and types, name visibility, binding times, parameter passing modes, subroutines, co-routines, and tasks. Functional programming, list processing, logic programming, object-oriented programming systems.

**ITCS 4114. Real World Algorithms. (3)** Basic and advanced algorithms foundational to computer science. In particular, the course will tie each algorithm with a real-world problem or application, thereby illustrating its relevance and importance in solving complex and challenging problems. Algorithms will span the topics of sorting, searching, geometric and graph algorithms. Algorithm implementation and testing will involve datasets from a variety of application domains.

**ITCS 4121. Information Visualization. (3)** Prerequisite(s): ITSC 1213 or permission of instructor. Information visualization concepts, theories, design principles, popular techniques, evaluation methods, and information visualization applications.

**ITCS 4122. Visual Analytics. (3)** Prerequisite(s): STAT 1220, STAT 1221, STAT 1222, STAT 2122, or STAT 2223, or approval of the instructor. Introduces the new field of visual analytics, which provides tools for the interactive visual analysis of large and complex data sets in many application areas. Topics include: visual representation, perception, the analysis process, critical thinking, data transformations, color, interaction, and applications.

**ITCS 4123. Visualization and Visual Communication. (3)** Prerequisite(s): ITSC 2214. Understanding the relatively technical field of visualization from the point of view of visual communication; this course draws connections with photography, design, illustration, aesthetics, and art. Both technical and theoretical aspects of the various fields are covered, and the connections between them are investigated.

**ITCS 4124. Advanced 3D Computer Graphics. (3)** Prerequisite(s): ITCS 3120. Introduction to 3D transforms, 3D viewing and visibility algorithms; local illumination models; texture mapping; 3D surfaces; advanced lighting models; geometric modeling techniques and procedural geometry methods.

**ITCS 4125. Introduction to Virtual Reality and Augmented Reality. (3)** Prerequisite(s): ITSC 2214. Introduces the basic technologies of virtual and augmented reality (VR/AR). Students learn the diverse topics of VR/AR, learn and practice core skills to develop basic VR/AR programs, and learn example VR/AR applications.

**ITCS 4141. Computer Organization and Architecture. (3)** Prerequisite(s): ITSC 2214 with grade of C or above and ITSC 2181 with grade of C or above. Cross-listed Course(s): ITCS 5141. Exploration of the design, organization, and performance characteristics of modern computer systems, focusing on processing units, memory systems, and interconnects. Students will study the architectures and microarchitectures of the Central Processing Unit (CPU), Graphic Processing Unit (GPU), and Tensor Processing Unit (TPU), hardware and software threading and synchronization in CPU and GPU, memory and caching mechanisms; principles of locality of software programs; virtual memory and address translation; and system interconnects linking processors, memory, storage, and accelerators. The course also covers discrete memory systems and the role of accelerator architectures in offloading computation.

**ITCS 4145. Parallel Programming. (3)** Prerequisite(s ITSC 3146; or permission of instructor. Parallelism is the driving force behind a wide range of applications, including database systems, web browsers, video games and Artificial Intelligence. This course introduces how to program such devices to get the most performance for your applications. Topics include: Dependency analysis; Parallel task decomposition; Shared memory parallel programming techniques; Performance analysis both theoretical and empirical; Concurrency control; Accelerator programming.

**ITCS 4150. Mobile Robotics. (3)** Prerequisite(s): ITSC 2214 and MATH 2164. Cross-listed Course(s): ITCS 5150. An introduction to basic concepts and techniques used in mobile robotics. Topics include: mobile robot hardware, sensors and sensor data processing, planning and control, robot architectures, localization and mapping, path planning, and mobile robot applications.

**ITCS 4151. Intelligent Robotics. (3)** Prerequisite(s): ITSC 2214 and MATH 2164. General introduction to spatial descriptions and transformations, and manipulator position and motion. More study on robot planning, programming, sensing, vision, and CAD/CAM.

**ITCS 4152. Introduction to Computer Vision. (3)** Prerequisite(s): ITCS 3156. Computer Vision is the study of enabling machines to "see" the visual world (i.e., understand images and videos). In this course, the students will learn fundamental computer vision algorithms and have opportunities to implement them. Further, we will be discussing more recent state-of-the-art visual representation learning approaches.

**ITCS 4158. Blockchain System Architecture. (3)** Cross-listed Course(s): ITCS 5158. Prerequisite(s): ITSC 2214 and MATH 2164. Introduces students to Blockchain technology, which can be used to record and transfer digital assets, and the trustless system architecture underlying this technology. Employs a hands-on learning approach, using open-source platforms such as Hyperledger or Ethereum.

**ITCS 4161. Intellectual Property Aspects of Computing. (3)** Prerequisite(s): Senior standing or permission of department. This course explores the broad field of intellectual property and the many aspects related to computing. Topics covered include software copyrights, software patents, trademarks and service marks, employment contracts, non-compete agreements, software licenses, software development contracts, preservation of digital evidence, protection of trade secrets, cyberspace law and the use of mediation in IP disputes.

**ITCS 4165. Computing Entrepreneurship. (3)** Prerequisite(s): ITSC 3155. Introduction to entrepreneurship and the specificities of creating a computing and technology driven small business. An overview of how successful entrepreneurs learn about the marketplace, conduct financial analyses, and utilize management skills to develop entrepreneurial opportunities. Other topics include: intellectual property protection, funding options, technology business planning, and start-up structure.

**ITCS 4180. Mobile Application Development. (3)** Cross-listed Course(s): ITIS 4180. Prerequisite(s): ITSC 2214 or permission of department. Mobile platforms are at the center of attention of users and organizations nowadays. Most organizations and businesses are rapidly migrating toward the cloud and need to provide a fast and easy mechanism for users to stay connected to their services. Mobile applications are the top trend nowadays given the high variety of new mobile devices and platforms such as Apple's iOS and Google's Android. In this course, students are introduced to the foundations of mobile development and its unique requirements and constraints. Students design and build a variety of mobile applications with a hands-on and project-based approach.

**ITCS 4182. Introduction to High-Performance Computing. (3)** Cross-listed Course(s): ITCS 5182. Prerequisite(s): ITCS 4145 or permission of department. Fundamentals of parallel computer systems; throughput computing; memory hierarchies; computation/communication overlapping; mapping high level programs to low level components; leveraging accelerators; performance optimization; performance evaluation.

**ITCS 4230. Introduction to Game Design and Development. (3)** Prerequisite(s): ITCS 2214. Basic concepts and techniques for electronic

game design and development. Topics include: game history and genres, game design teams and processes, what makes a game fun, level and model design, game scripting and programming including computer graphics and animation, artificial intelligence, industry issues, and gender and games.

**ITCS 4231. Advanced Game Design and Development. (3)** Prerequisite(s): ITCS 4230. Advanced concepts and techniques for electronic game design and development. A project-centered course where students explore complex gameplay and interactivity. Explores topics from the introductory course in more depth, such as: applying software engineering techniques to developing games, advanced game programming and scripting, networking, graphics, physics, audio, game data structures and algorithms, and artificial intelligence.

**ITCS 4232. Game Design and Development Studio. (3)** Prerequisite(s): ITCS 3155 and ITCS 4231, or permission of instructor; and Senior standing or permission of department. Application of advanced concepts and techniques for electronic game design and development. Teams use engineering techniques to incorporate game programming and scripting, networking, graphics, physics, audio, game data structures and algorithms, and artificial intelligence into an electronic game. Individuals develop a complete portfolio of prior work and the course project.

**ITCS 4235. Game Engine Construction. (3)** Prerequisite(s): ITCS 4120 or permission of department. Introduction to principles and techniques behind modern computer and console game engines. Graphics Rendering Pipeline (transformations, lighting, shading); 2D/3D Texture Mapping; Image Based Rendering; Spatial Structures and Acceleration Algorithms; Level of Detail; Collision Detection, Culling and Intersection Methods; Vertex/Pixel Shaders; Pipeline Optimization; Rendering Hardware.

**ITCS 4236. Artificial Intelligence for Computer Games. (3)** Prerequisite(s): ITCS 3153. Application of advanced concepts and techniques in artificial intelligence for electronic game design and development. An investigation of the artificial intelligence techniques necessary for an agent to act, or appear to act, intelligently in interactive virtual worlds. Topics include: uncertainty reasoning, machine learning, perception, knowledge representation, search, and planning. Emphasis is on implementation and experimentation with the goal of building robust intelligent agents in interactive entertainment domains. Elements of multi-agent collaboration and the use of cognitive architectures in interactive computer games are also discussed.

## Software and Information Systems (ITIS)

**ITIS 2110. IT Infrastructure I: Design and Practice. (3)** Prerequisite(s): Sophomore, Junior, or Senior standing or permission of department. Corequisite(s): ITIS 2110L. This course covers basics concepts for IT infrastructure systems administration such as networking administration (e.g., DNS configuration, router configuration, firewall setup, and web server configurations), operating system administration (e.g., account and privilege management, and service management). The course grade includes the student's performance in ITIS 2110L.

**ITIS 2110L. IT Infrastructure I: Design and Practice Lab. (0)** Corequisite(s): ITIS 2110. Guided laboratory exercises dealing with IT Infrastructure concepts and equipment. Performance in ITIS 2110L will be counted as portion of the ITIS 2110 grade. *Graded on a Pass/No Credit basis.*

**ITIS 3105. Server-Side Applications and Data Management. (3)** Prerequisite(s): ITIS 2300 and ITSC 1213, or permission of department. This course covers principles that are important for implementing advanced Web-based applications. Emphasis is placed on industrial and business applications which require robust and secure implementations. Server-side scripting and processing techniques are exercised in course projects.

**ITIS 3130. Introduction to Human-Centered Computing. (3)** Prerequisite(s): Sophomore, Junior, or Senior standing. Introduction to the dynamic field of Human-Centered Computing, which integrates principles of computer science, cognitive psychology, and design to create technology interfaces that prioritize user needs, experiences, and ethical considerations. Topics include: cognitive science principles to understand human information processing, user interface and user experience design techniques, ethical implications in technology, accessibility, and data visualization. Students will gain an understanding of user-centric design principles and the skills to evaluate and make ethical decisions in technology development.

**ITIS 3135. Front-End Web Application Development. (3)** Prerequisite(s): ITSC 2214 with grade of C or above. An introduction to front-end web application development. Students will learn the fundamentals of HTML, CSS, and JavaScript, as well as modern frameworks and libraries that simplify development, manage application state, and ensure a consistent user experience. It equips students to create interactive and responsive web applications through hands-on projects.

**ITIS 3140. User Experience Methods. (3)** Focuses on the various methods used to create and enhance user experiences with technology. Incorporating elements of design thinking, this course equips students with a comprehensive toolkit to systematically identify, empathize with, and address user needs, preferences, and pain points. Students will explore an array of user-centric research methodologies, such as focus groups, user personas, and journey mapping, to gain an understanding of the target audience. They will practice heuristic evaluations, usability testing, and A/B testing to assess and refine interfaces, ensuring optimal usability and satisfaction. Through hands-on projects and case studies, students will employ design thinking processes, fostering creativity, collaboration, and iterative problem-solving to innovate and reiterate user interfaces. By the end of the course, students will have mastered a diverse range of UX methods and proficiency in selecting the most appropriate techniques for various design challenges, positioning them to excel in the dynamic and user-centered field of UX design.

**ITIS 3200. Introduction to Information Security and Privacy. (3)** Prerequisite(s): ITSC 2214. An introductory overview of key issues and solutions for information security and privacy. Topics include: security concepts and mechanisms; security technologies; authentication mechanisms; mandatory and discretionary controls; basic cryptography and its applications; intrusion detection and prevention; information systems assurance; anonymity and privacy issues for information systems.

**ITIS 3216. Introduction to Cognitive Science. (3)** Cross-listed Course(s): ITCS 3216 and PSYC 3216. Prerequisite(s): PSYC 1101 with grade of C or above, or permission of department. Interdisciplinary introduction to the science of the mind. Broad coverage of such topics as philosophy of mind; human memory processes; reasoning and problem-solving; artificial intelligence; language processing (human and machine); neural structures and processes; and vision.

**ITIS 3246. IT Infrastructure and Security. (3)** Prerequisite(s): ITSC 3146. The concepts for the design and implementation of robust IT infrastructures. Topics include: system hardening, secured access, file storage services, as well as advanced topics in design and configuration of network based services.

**ITIS 3261. Foundations of Cloud Computing. (3)** Prerequisite(s): ITSC 1212. Foundational elements of cloud computing. Students should be able to create simple cloud-based solutions using popular tools. Topics covered include: introduction to Internet protocols, virtual cloud networks, introduction to command line scripting, virtual servers, containers, serverless computing, cloud data storage and database options, identity and access management, content delivery networks, load balancing and cost optimization.

**ITIS 3300. Software Requirements, Analysis and Testing. (3)** Prerequisite(s): ITSC 3160 and ITIS 3135, or permission of department. Explores managing, developing, and validating software requirements that lead to compliant software designs and implementations. Students will learn to elicit, analyze, specify, and verify both functional and non-functional requirements using best practices and project risk management tools. Students will gain hands-on experience in developing software requirements models, specifications, and conduct verification and validation. By the end of the course, students will be able to translate high-level system requirements into detailed software specifications, implement effective testing strategies, and ensure the final software product meets all specified requirements.

**ITIS 3310. Software Architecture and Design. (3)** Prerequisite(s): ITSC 2214 or permission of department. Introduction to software design with emphasis on architectural design and design patterns. Models of software architecture. Architecture styles and patterns, including explicit, event-driven, client-server, and middleware architectures. Decomposition and composition of architectural components and interactions. Use of non-functional requirements for tradeoff analysis. Component based software development, deployment and management. A system design language, such as UML, are introduced and used throughout the course.

**ITIS 3320. Introduction to Software Testing and Assurance. (3)** Prerequisite(s): ITIS 3200 and ITIS 3300 or permission of department. Methods of evaluating software for correctness, and reliability including code inspections, program proofs and testing methodologies. Formal and informal proofs of correctness. Code inspections and their role in software verification. Unit and system testing techniques, testing tools and limitations of testing. Statistical resting, reliability models.

**ITIS 4010. Topics in Software and Information Systems. (3)** Prerequisite(s): Junior standing. Topics in software and information systems selected to supplement the regular course offerings. *May be repeated for credit with change of topic.*

**ITIS 4164. AI-Assisted Software Engineering. (3)** Prerequisite(s): ITIS 3135; CS major and (Junior or Senior level). Cross-listed Course(s): ITIS 5164. Explores the integration of Artificial Intelligence (AI) with software development, covering multiple phases of the Software Development Lifecycle (SDLC), including planning, designing, coding, debugging, refactoring, testing, deployment, and management. Students will learn practical knowledge of using AI for software creation, as well as a critical mindset to evaluate, compare, critique, validate, recommend, and manage AI solutions for software development in organizations of various sizes.

**ITIS 4166. Backend Application Development. (3)** Prerequisite(s): ITSC 2214 with grade of C or above and ITSC 3160. Delves into the core principles and advanced techniques of backend development. Through hands-on projects, students will learn API development, secure authentication methods, and deployment strategies using containerization and continuous integration/deployment pipelines.

**ITIS 4180. Mobile Application Development. (3)** Cross-listed Course(s): ITCS 4180. Prerequisite(s): ITSC 2214 or permission of department. Mobile platforms are at the center of attention of users and organizations nowadays. Most organizations and businesses are rapidly migrating toward the cloud and need to provide a fast and easy mechanism for users to stay connected to their services. Mobile applications are the top trend nowadays given the high variety of new mobile devices and platforms such as Apple's iOS and Google's Android. In this course, students are introduced to the foundations of mobile development and its unique requirements and constraints. Students design and build a variety of mobile applications with a hands-on and project-based approach.

**ITIS 4210. Introduction to Identity & Access Management. (3)** Prerequisite(s): ITIS 3200. Cross-listed Course(s): ITIS 5210. Explores the principles and technologies of digital identity across enterprises, government, education, healthcare, and consumer ecosystems. Students will examine authentication, authorization, role-based access, and identity governance, with attention to cloud, mobile, and regulatory challenges. Hands-on labs and case studies provide practical experience in designing IAM solutions that balance security, usability, and compliance. Graduates will understand IAM's role in cybersecurity, organizational resilience, and digital trust.

**ITIS 4214. Usable Security and Privacy. (3)** Prerequisite(s): Junior or Senior standing. People are often considered the weakest link in security and privacy systems. However, this does not mean that people are at fault. Instead, systems themselves are not designed around users' conceptions and behaviors with regard to security and privacy. Thus, how people interact with current applications is critical to a system's overall security and privacy. This course provides an introduction to the usability and user interface issues related to a variety of security and privacy technologies and tools. Students will examine the security and privacy implications of users' behaviors with applications, and design guidelines for improving both the security and usability of those mechanisms. Prior courses in security and privacy or human-centered computing are a plus.

**ITIS 4221. Secure Programming and Penetration Testing. (3)** Prerequisite(s): ITIS 3135 or permission of department. Techniques for web application penetration testing, secure software development techniques for network based applications. Automated approaches such as static code analysis and application scanning are also discussed.

**ITIS 4246. Competitive Cyber Defense. (3)** Cross-listed Course(s): ITIS 5246. Prerequisite(s): ITIS 3200 and ITIS 3246. Hands-on experience with designing, deploying, securing, and defending enterprise network services. Topics include: securing network communication, single sign-on services, firewall and IDS deployment, security policy design and development, log analysis, securing critical network infrastructure, and network access control policies. Students are expected to demonstrate their ability to defend these services against adversary attacks.

**ITIS 4250. Computer Forensics. (3)** Prerequisite(s): ITIS 2300 or permission of department. The identification, extraction, documentation, interpretation, and preservation of computer media for evidentiary purposes and/or root cause analysis. Topics include: techniques for discovering digital evidence; responding to electronic incidents; tracking communications through networks; understanding electronic media, crypto-literacy, data hiding, hostile code and Windows™ and UNIX™ system forensics; and the role of forensics in the digital environment.

**ITIS 4260. Introduction to Security Analytics. (3)** Prerequisite(s): ITIS 3200, ITSC 2181, and (STAT 1220 or STAT 1221 or STAT 1222). Cross-listed Course(s): ITIS 5260. Focuses on security-related sense-making and decision-making based on data analytics techniques. Topics include: data cleaning and storage techniques, introduction to R, clustering analysis and statistical inference for security; log analysis; event correlation, anomaly detection, cyber threat intelligence, and use of public cybersecurity information resources.

**ITIS 4261. Introduction to Secured Cloud Computing. (3)** Prerequisite(s): ITSC 3146 or ITIS 3261. Cross-listed Course(s): ITIS 5261. Design and deployment of secure and robust cloud computing solutions. Instructions will rely on hands-on labs. It focuses on selecting appropriate components in the cloud and securely configuring them to support a specific application.

**ITIS 4270. Artificial Intelligence Risk Management. (3)** Prerequisite(s): ITAI 2153 or ITCS 3153. Cross-listed Course(s): ITIS 5270. Understand risks of AI in enterprise applications and risk mitigation methods. Topics covered include: AI risk frameworks, AI governance, threat modeling and detection, risks in data pipelines, risks in integration and adoption, and risks in maintenance of AI based applications.

**ITIS 4271. Secure and Trustworthy Artificial Intelligence. (3)** Prerequisite(s): ITCS 3156. Cross-listed Course(s): ITIS 5271. Explores the security, privacy, and ethical challenges in AI and machine learning systems. Designed for advanced students, it covers AI risk assessment, adversarial machine learning, and trustworthy AI deployment. Through lectures, case studies, and hands-on projects, students will learn to identify vulnerabilities, implement defenses, and design trustworthy AI systems. By the end, they will be equipped to develop and deploy AI responsibly in real-world scenarios.

**ITIS 4310. Web Mining. (3)** Pre- or Corequisite(s): ITCS 3160 or permission of department. Topics include: measuring and modeling the Web; crawling, Web search and information retrieval; unsupervised learning, supervised learning, semi-supervised learning in Web context; social network analysis and hyperlink analysis; text parsing and knowledge representation.

**ITIS 4350. Design Prototyping. (3)** Cross-Listed Course(s): ITIS 5350. Prerequisite(s): Sophomore standing. Introduction to theory and approaches for rapid prototyping in interface design. Explores theoretical constructs behind rapid prototyping and how it relates to Human-Computer Interaction. Students study evolutionary prototyping. This begins with low fidelity prototyping techniques such sketching and paper prototyping, and progressively iterate through higher fidelity prototyping techniques using digital tools. In addition to software prototyping, the course also provides an introduction to physical prototyping.

**ITIS 4353. Social Technology Design. (3)** Cross-listed Course(s): ITIS 5353. Social media platforms such as Wikipedia, Facebook, TikTok, Discord, Twitch, and YouTube are among the most popular in the world. They feature some of the most interesting social interactions and social dynamics that continue to fascinate computing and informatics researchers. This course will examine designs for these and other technologies, principles of online communities, and the social impact of spending at least part of our lives online. Students will summarize and reflect on many online readings, participate in in-class activities and discussion, give in-class presentations, and complete 2-3 assignments and a small-group project. This course does not require any technical or design experience. However, skills in statistical data analysis, machine learning, programming, social-behavioral sciences, or interaction design are a plus.

**ITIS 4355. Accessible Design and Implementation. (3)** Cross-listed Course(s): ITIS 5355. Introduction to foundational principles of accessibility, as well as accessible practices in design and development of computing interfaces and applications. Accessibility focuses on enabling as many people as possible to use facilities, systems, and services, even when some people's abilities are limited in some way, such as for persons with disabilities. Proactive design and development to support different ways of interacting with computing applications provides broader access and better experiences for more users. This course provides a foundational understanding of disability and assistive technology, legal considerations, and best practices for accessible design and development in computing applications.

**ITIS 4358. Physical Computing. (3)** Cross-listed Course(s): ITIS 5358. Physical computing considers tangible, embedded, and embodied ways that computing systems can interact directly with people and the physical world, such as in smart products and environments, wearable computing, or Internet of Things devices. This involves the design and development of physical forms using digital fabrication approaches, such as 3D printing, laser cutting, or Computer Numerical Control (CNC) techniques. It also involves the design and development of interactive systems that interact through physical forms by employing physical / sensory inputs and outputs. The course provides foundations in digital design and digital fabrication, small computing systems and programming, physical prototyping with sensors and effectors, as well as elements of user experience design for tangible computing systems.

**ITIS 4360. Human-Centered Artificial Intelligence. (3)** Cross-listed Course(s): ITIS 5360. Explores the intersection of artificial intelligence and human-centered design, equipping students with the knowledge and skills to develop AI systems that are not only technically advanced but also ethical, responsible, and human-centric. Through a blend of theory and practical application, students will learn about AI technologies, ethical considerations, and methods for incorporating human perspectives. They will learn to create AI systems that align with user

needs and societal values, applying principles of transparency, fairness, and accountability. The course covers key topics such as interpretability, bias mitigation, and user-centered AI interface design. Additionally, students will engage in real-world case studies and projects, where they will develop AI solutions that address genuine human needs while navigating the complexities of AI ethics.

**ITIS 4390. Interaction Design Projects. (3)** Prerequisite(s): ITIS 3130, ITIS 3135. Cross-listed Course(s): IT IS 5390. Project-based learning development of the skills essential for designing and implementing innovative and user-centric digital experiences. Students will learn to design low and high-fidelity prototypes, leveraging versatile platforms, to conceptualize and iterate on interactive solutions, and implementing user interfaces using libraries such as ReactJS, gaining proficiency in creating responsive and engaging web applications. Emphasizing collaboration, students will work in teams on a semester-long project, integrating ethical principles and usability considerations into their designs.

**ITIS 4990. Undergraduate Research. (3)** Prerequisite(s): Permission of department. Undergraduate research under the supervision and direction of a faculty member. *May be repeated for credit up to 6 credit hours.*

# Italian (ITLN)

**ITLN 1201. Elementary Italian I. (3)** Fundamentals of the Italian language, including speaking, listening comprehension, reading, and writing.

**ITLN 1202. Elementary Italian II. (3)** Prerequisite(s): ITLN 1201 or permission of department. Fundamentals of the Italian language, including speaking, listening comprehension, reading, and writing.

**ITLN 1502. Global Arts/Humanities: Italian Culture in the World. (3)** This Global Theme course uses the methods and insights of the social sciences to explore the central question of what it means to be a citizen of the world. Through the study of one or more different peoples, societies or cultures across the globe, students will be able to better understand themselves as part of a complex, interconnected world. Students are introduced to critical studies of culture through a broad engagement with the influence and presence of Italian culture throughout the world. Course materials may draw widely from film, media, the arts, literature, fashion, cuisine, and music. Taught in English.

**ITLN 1512. Local Arts/Humanities: Italian Culture in the U.S. (3)** This Local Theme course uses the methods and insights of the arts and humanities to explore the central question of what it means to be a member of a "local" community. Through the study of the experiences of different peoples, societies, cultural traditions, and modes of expression in communities at the city, regional, or national level, students will be able to better understand the complexity and diversity of the society in which we live. Students are introduced to critical studies of language through a broad engagement with the influence and presence of Italian culture in the United States. Course materials may draw from literature, history, film, linguistics, and the arts.

**ITLN 2201. Intermediate Italian I. (3)** Prerequisite(s): ITLN 1202 or permission of department. Review of grammar, conversation, and composition.

**ITLN 2202. Intermediate Italian II. (3)** Prerequisite(s): ITLN 2201 or permission of department. Continued review of grammar, conversation, and composition.

**ITLN 3050. Topics in Italian. (3)** Study of Italian language, culture, or literature. *May be repeated for credit with change of topic.*

**ITLN 3051. Topics in Italian. (1 to 3)** Study of Italian language, culture, or literature. *May be repeated for credit with change of topic.*

**ITLN 3201. Italian Grammar and Conversation. (3)** Prerequisite(s): ITLN 2202 or permission of department. Review of Italian grammar and guided conversation on prepared topics. Emphasis on spoken and written Italian.

**ITLN 3202. Italian Grammar and Composition. (3)** Prerequisite(s): ITLN 3201 or permission of department. Review of Italian grammar and guided compositions on prepared topics on culture, film, and literature. Emphasis on: vocabulary, idiomatic expressions, and stylistics.

**ITLN 3225. Short-Term Abroad. (3)** Prerequisite(s): Permission of instructor. Faculty-led short-term study abroad experience offered during Spring Break.

**ITLN 3226. Rome Virtually! (3)** Rome Virtually! is a journey of appreciation of Rome through five itineraries. History, historical sites, monuments, museums, traditions, arts, food, and films set in the Eternal City are explored. Webcams, walking videos, Google Maps, films, and lectures by UNC Charlotte professors of Architecture, Art History, and Film Studies are used.

**ITLN 3252. Comedy in Italian Film. (3)** Introduction to Comedy Italian style from the '50s to the '70s, the golden age of Italian cinema, which serves as a mirror to Italian society and culture. Lessons are conducted in English. Films are in Italian with English subtitles.

**ITLN 3253. Italian Horror Film. (3)** Cross-listed Course(s): FILM 3051. An analysis of Italian Horror Films. Lessons conducted in English. Films will be shown in Italian with English subtitles.

**ITLN 3254. Pinocchio in Italian Film. (3)** An analysis of the different adaptations of the original Pinocchio book in film as a mirror of changing time and culture. Lessons conducted in English and Film shown in Italian with subtitles.

**ITLN 3650. History of Italian Film. (3)** Cross-listed Course(s): FILM 3050. An introduction to Italian cinema. Lessons are conducted in English. Films are in Italian with English subtitles.

**ITLN 3651. Italian Mafia through Film. (3)** Cross-listed Course(s): FILM 3051. Survey of the history of the Cosa Nostra, the Sicilian Mafia, and its liaisons, also known as Pizza Connection, with the American Mafia. The inquiry is made through analysis and discussion of Italian and American films on the Mafia.

**ITLN 3660. Italian Culture and Business. (3)** Cross-listed Course(s): LANG 3050. A survey of Italian geography and culture that are essential to understand for effective business practices.

**ITLN 3661. Migrations Across the Mediterranean Sea through Film. (3)** Cross-listed Course(s): FILM 3051. An analysis of the geopolitics of migration across the Mediterranean Sea through Italian film.

# Computing and Informatics (ITSC)

**ITSC 1110. Introduction to Computer Science Principles. (3)** A broad-based introduction to key concepts and principles of computer science. Exploration of seven big ideas of computing: creativity, abstraction, data, algorithms, programming, the Internet, and impact of computing.

**ITSC 1200. Freshman Seminar (1 to 3)** Prerequisite(s): Permission of department. An introductory course designed to engage students in the process of learning about the University, as well as the College of Computing and Informatics in order to prepare each individual to be a successful student, leader, and individual throughout their collegiate experience. The course lays a foundation of awareness, strategies and processes for successful transition into college. The development of learning skills, time management skills, leadership skills and other life skills necessary for college success are emphasized. *May be repeated for credit two times.*

**ITSC 1212. Introduction to Computer Science I. (4)** Introduction to basic computer literacy, computational thinking and problem-solving using a high level programming language. Programming concepts will be introduced and applied, including: operators; data types; variables, constants, and literals; expressions; control structures and program flow; basic data structures such as arrays, lists, and maps; defining and using functions; file input/output. This is an introductory programming course for non-CS majors and the first course for students interested in pursuing a computer science major or related minor.

**ITSC 1213. Introduction to Computer Science II. (4)** Prerequisite(s): ITSC 1212 with grade of C or above or DTSC 1302 with grade of C or above or ENGR 1302 with grade of C or above. Pre- or Corequisite(s): MATH 1100 or MATH 1101, MATH 1101, MATH 1103, MATH 1120, or MATH 1241. Builds on introductory programming by emphasizing modular program design and the organization and processing of data. Students learn to structure programs into reusable components and work with linear data structures such as lists, arrays, stacks, queues, and dictionaries to store and manipulate information. The course introduces strategies for working with structured data, designing algorithms for searching and sorting, and reasoning about data organization. Through applied examples, students develop programs that transform, analyze, and interpret data while practicing systematic debugging, testing, and documentation.

**ITSC 1501. Global Social Science: The Interconnected World of Technology. (3)** All Global Theme courses explore the central, unifying question of what it means to be a citizen of the world. Through the study of one or more different peoples, societies or cultures across the globe students will be able to better understand themselves as part of a complex, interconnected world. This course is a survey of global topics related to technology and digital citizenship. Issues covered will examine past, current, and future global technologies, recognizing fact from fiction online, using technology to engage in global change, being respectful of people with differing viewpoints, equity of access to resources, global digital laws, and digital literacy.

**ITSC 1600. Computing Professionals. (2)** Prerequisite(s): Computer Science major; Freshman standing. An introduction to becoming a computing professional. Students learn about setting goals, defining their dream career, becoming a part of the University, planning coursework, building network, managing time, and working in a team. Additionally, guest speakers and industry panels discuss and explain aspects of a professional career in IT-related fields. Throughout the course, students build a professional profile including their goals, values, dream career, student organizations, coding skills, communication skills, curriculum plan, professional network, a team TED talk, resume, and a 30-second elevator pitch.

**ITSC 1660. Computing and Informatics Instructional Assistant Training Seminar. (1)** A seminar course designed for students wishing to become undergraduate Instructional Assistants (IAs) or those currently employed as Instructional Assistants within CCI. This course will teach students the core expectations of being an IA, time management skills, teaching and grading protocols, and how to navigate difficult situations that can arise in classrooms. *May be repeated to refresh training up to one time.*

**ITSC 2175. Logic and Algorithms. (3)** Prerequisite(s): ITSC 1212 or DTSC 1302; and MATH 1120 or MATH 1241. A study of discreet mathematical concepts. Introduction to propositional calculus, predicate calculus, algorithms, logic functions, finite-state machines; and logic design.

**ITSC 2181. Introduction to Computer Systems. (4)** Prerequisite(s): ITSC 1213 with grade of C or above. Introduction to computer system abstractions reflected in programming languages, operating systems, architectures, and networks. Topics include: overview of computer and processor architecture, instruction set architecture and introduction to assembly language, C programming, system calls, processes and process memory layout, interfaces for memory allocation and file systems, file and directory management via the command line, network architecture and protocols (such as HTTP, MAC, IP, DNS).

**ITSC 2214. Data Structures and Algorithms. (4)** Prerequisite(s): ITSC 1213 with grade of C or above. Deepens students' understanding of data organization and algorithmic thinking by focusing on non-linear data structures and the computational strategies used to process them. Using objects to model data elements and their relationships, students study trees, graphs, sets, and other hierarchical or interconnected data representations, and analyze how these structures support efficient algorithm design. Emphasis is placed on recursion, traversal techniques, searching and sorting algorithms, and performance analysis. The course also develops professional programming practices, including testing, specifications, version control, and collaborative workflows. Through individual and team-based projects, students learn to select and apply appropriate data structures, reason formally about program behavior, and design scalable, well-organized solutions relevant to computing, data analysis, and intelligent systems.

**ITSC 2600. Computer Science Program, Identity, Career. (2)** Prerequisite(s): Major in Computer Science or permission of department. Introduces the computer science program and develops a student's identity and career preparedness. Students learn about the program's

progression and graduation requirements, discuss concentration choices, and make curriculum plans. The course stimulates professional identity building emphasizing ethical uses of technology, diversity, career paths, and research. Course outcomes emphasize an inclusive culture dedicated to student success and equity in the field of computing. *This course is designed for internal and external transfer students, and is equivalent to the ITSC 1600 requirement for entering freshmen. May not be repeated for grade replacement.*

**ITSC 2610. Computing Leadership Development. (1)** Prerequisite(s): Permission of department. This is a service-learning seminar course for STARS, Student and Technology in Academia Research and Service. This seminar is designed to teach the STARS principles of technical excellence, leadership and service within the computing community. Topics are intended to enhance disciplinary knowledge and skills (computing technologies, research, careers) and to develop leadership skills by using computing knowledge and skills in service to society (service and civic engagement). Students participate in a leadership project throughout the term. *May be repeated for credit.*

**ITSC 2700. Honors Seminar. (1)** Prerequisite(s): Acceptance into the College of Computing and Informatics Honors Program. Incorporates presentations from College of Computing and Informatics faculty, industry partners, and local entrepreneurs. Topics and course content varies each semester but will focus on helping students identify and refine their professional goals by providing a survey of modern computing professions.

**ITSC 2990. Undergraduate Research. (3)** Prerequisite(s): Permission of department. Students will conduct a research project under the supervision of a faculty member, working to develop critical research skills and gain hands-on experience in the field of computing and informatics.

**ITSC 3146. Introduction to Operating Systems and Networking. (3)** Prerequisite(s): ITSC 2214 with grade of C or above and ITSC 2181 with grade of C or above; and College of Computing and Informatics major or minor. Introduces the fundamentals of operating systems together with the basics of networking and communications. Topics include: processes, thread, scheduling, cache, memory management, file systems, interprocess communication, network architecture and protocols, HTTP, MAC, IP, TCP/UPD, and Internet routing.

**ITSC 3155. Software Engineering. (3)** Prerequisite(s): ITSC 2214 with grade of C or above; and College of Computing and Informatics major or minor. An introduction to software engineering, which advances the study and application of engineering principles, methods, and techniques that can help us to improve the process of creating software as well as the resulting software products. The course covers fundamentals of software engineering, including: modern software process models; eliciting, specifying, and evaluating software system requirements; designing software systems to embody required quality attributes, including usability and security; an introduction to reusable software design solutions in the form of software architectural styles and design patterns; software system modeling, implementation, and deployment; and software quality assurance (measurement, inspection, testing). Project planning, working in teams, and using modern software development tools are also explored.

**ITSC 3160. Database Design and Implementation. (3)** Prerequisite(s): ITSC 1213 or permission of department. Logical and physical database organization, data models, design issues, and secondary storage considerations. Emphasis on actual participation in the design and implementation of databases. Multiple database technologies are discussed, such as relational (SQL), object oriented and non-relational (NoSQL) databases.

**ITSC 3181. Introduction to Computer Architecture. (4)** Prerequisite(s): ITSC 1213 with grade of C or above; and ITSC 2175 or MATH 1165 with grade of C or above; and College of Computing and Informatics major or minor. Introduction to the fundamentals of computer architectures and their programmability using assembly and system programming. Topics include: logic design, processor architecture, memory hierarchies, assembly programming, C programming, process and thread parallelism.

**ITSC 3500. Computer Science Cooperative Education Experience. (0)** This course is required of Co-op students during the semester they are working. Participating students pay a course registration fee for transcript notation. Assignments must be arranged and approved in advance. The Cooperative Education Program is only open to undergraduate students; graduate level students are encouraged to contact their academic departments to inquire about academic or industrial internship options for credit. For more information, contact the University Career Center. *May be repeated. Graded on a Pass/Unsatisfactory basis*.

**ITSC 3610. Computing Leaders Seminar. (3) (SL)** Prerequisite(s): CCI major. A service-learning seminar course. Seminar topics are intended to enhance disciplinary knowledge and skills (computing technologies, research, careers) and to develop leadership skills by using computing knowledge and skills in service to society (service and civic engagement). Emphasis placed on the basic concepts of leadership theory and its application within the computing discipline on an individual, group, and societal level. Students participate in team-based computing service-learning projects in the community. Student performance evaluation considers individual homework assignments, participation in team projects, class participation, and feedback from those served.

**ITSC 3688. Computing and AI: Ethics, Society & Communication. (3)** Prerequisite(s): Junior or Senior standing; and either Computer Science major or minor, Humanities, Technology, and Science minor, or Linguistics minor. Exploration of the profound shifts in ethics, social structure, and human communication through a computing lens. Students will investigate urgent questions regarding the impact of computing and AI technology within societies and learn to navigate today's digital landscape.

**ITSC 3695. Computer Science Cooperative Education Seminar. (1)** Required of Co-op students immediately following each work assignment for presentation of reports on work done the prior semester.

**ITSC 3790. Honors Research. (3)** Prerequisite(s): College of Computing and Informatics Honors Program member in good academic standing and Permission of department. College of Computing and Informatics honors students will be introduced to research methodologies and will conduct a research project under the supervision of a faculty member, working to develop critical research skills and gain hands-on experience in the dynamic field of computing and informatics.

**ITSC 3990. Undergraduate Research. (3)** Prerequisite(s); Permission of department. Students will conduct a research project under the supervision of a faculty member, working to develop critical research skills and gain hands-on experience in the field of computing and informatics.

**ITSC 4155. Software Development Projects. (3)** Prerequisite(s): ITCS 2214; and ITCS 3155, or ITIS 3300, or ITIS 3310, or permission of instructor; and Senior standing or permission of department. Advanced software engineering concepts. Explores the entire software development process, emphasizing requirements engineering, design, implementation, test, deployment, and evolution. Advanced topics in software engineering, such as object-oriented modeling, software architecture, architectural styles, design patterns, middleware frameworks, and programming paradigms. Students apply these concepts, along with concepts from introductory programming courses, data structures and algorithms courses, and introductory software engineering courses, to a team software development project that results in an executable software system prototype.

**ITSC 4681. Senior Design I. (3)** Prerequisite(s): Senior standing and two 3xxx/4xxx CCI courses with grades of C or above, or permission of department. An individual or group computer engineering design project under the direction of a faculty member. Projects must be approved by the department before they can be initiated.

**ITSC 4682. Senior Design II. (3)** Prerequisite(s): ITSC 4681. A continuation of ITSC 4681.

**ITSC 4750. Honors Thesis. (3)** Prerequisite(s): ITSC 3790; Approval of the student's Honors Thesis Committee and approval of a proposal through the Honors College Application to Candidacy process the semester prior to enrollment in the course. The Honors Thesis is an individualized experience that is developed by each student under the supervision of a faculty member (the honors project advisor). An independent thesis project combines a research agenda with appropriate exploratory practices. In keeping with the nature of the disciplines of the College of Computing and Informatics, the final product of these theses may vary to include (but not be limited to) a written document, an app, or a system. In all cases, written documentation of the research performed and, if applicable, the development process leading to a prototype system, is required for the purposes of evaluation. *May be repeated for credit up to 6 credit hours.*

**ITSC 4850. Senior Project I. (3)** Prerequisite(s): Senior standing and two 3xxx/4xxx CCI courses with grades of C or above, or permission of department. A group project in the teaching, theory, or application of computer science under the direction of a faculty member. A group of no more than 5 students is formed by the supervising faculty member, to meet the needs of the project. Projects must be approved by the department before they can be initiated.

**ITSC 4851. Senior Project II. (3)** Prerequisite(s): ITSC 4850. A continuation of ITSC 4850.

**ITSC 4990. Undergraduate Research. (3)** Prerequisite(s): Permission of department. Undergraduate research as part of a joint undergraduate/graduate research project using existing research laboratory facilities and materials. *May be repeated for credit up to 6 credit hours.*

**ITSC 4991. Undergraduate Thesis. (3)** Prerequisite(s): ITCS 4232, ITSC 4155, ITSC 4681, ITSC 4850, or ITSC 4990; permission of department; and, when taken for honors credit, approval of a proposal through the Honors College Application to Candidacy process the semester prior to taking the course. Students explore a subject in computer science chosen for thesis research and present a written thesis to their thesis committee consisting of the thesis advisor and at least two other faculty members.

# Japanese (JAPN)

**JAPN 1201. Elementary Japanese I. (3)** Acquisition of communicative competence in speaking, listening comprehension, reading, and writing at a beginning level, with attention to cultural awareness.

**JAPN 1202. Elementary Japanese II. (3)** Prerequisite(s): JAPN 1201 or permission of department. Continuation of JAPN 1201.

**JAPN 1502. Global Arts/Humanities: Japanese Studies. (3)** This Global Theme course uses the methods and insights of the social sciences to explore the central question of what it means to be a citizen of the world. Through the study of one or more different peoples, societies or cultures across the globe, students will be able to better understand themselves as part of a complex, interconnected world. Students are introduced to critical studies of language and culture through a broad engagement with the influence and presence of Japanese cultures throughout the world. Course materials may draw widely from pop culture, music, cuisine, film, media, the arts, and literature. Taught in English.

**JAPN 2050. Topics in Japanese. (1 to 3)** Prerequisite(s): JAPN 1202 or permission of instructor. Consideration of a predetermined topic not covered by other JAPN courses. *May be repeated for credit with change of topic.*

**JAPN 2201. Intermediate Japanese I. (3)** Prerequisite(s): JAPN 1202 or permission of department. Acquisition of communicative competence in speaking, listening comprehension, reading, and writing at an intermediate level, with attention to cultural awareness.

**JAPN 2202. Intermediate Japanese II. (3)** Prerequisite(s): JAPN 2201 or permission of department. Continuation of JAPN 2201.

**JAPN 2205. Japanese Oral Communication. (3)** Prerequisite(s): JAPN 1202 or permission of the department. Students explore strategies for effective communication in Japanese. Emphasis is placed on natural and colloquial usage. Conducted primarily in Japanese.

**JAPN 2208. Japanese Culture and Society. (3)** Explores aspects of Japanese culture, including values, customs, art, mythology, daily life, food, and popular culture, while making connections with their own values and culture. Students are invited to share similarities and differences they notice between cultures. Additionally, multiple assignment options are available to allow students to customize their education experience. Conducted in English; no knowledge of Japanese is required.

**JAPN 2209. Introduction to Japanese Civilization and Culture. (3)** Conducted in English; no knowledge of Japanese is required. Geographical, historical, and artistic features of Japanese culture as well as aspects of life, thought, and customs of the Japanese-speaking people.

**JAPN 3040. Topics in Japanese Culture. (1 to 3)** Treatment of specific themes in Japanese culture. Conducted in English. *May be repeated for credit with change of topic.*

**JAPN 3060. Topics in Japanese Film. (3)** Prerequisite(s): Sophomore, Junior, or Senior standing. Examines topics in Japanese film and culture, including the creative exchange of transnational influences, the emergence of the Japanese studio system as rival and complement to Hollywood, Japanese films, and global cinema. All materials are examined in historical, social, and aesthetic contexts. Conducted in English. *May be repeated for credit with change of topic.*

**JAPN 3101. Kanji through Reading. (3)** Prerequisite(s): JAPN 2202 or permission of department. Guides students to intermediate level of kanji through the acquisition of essential narrative skills. Conducted in Japanese and English.

**JAPN 3105. Japanese Immersion - Communication Skills Development. (3)** Prerequisite(s): JAPN 2201. Students work with native Japanese speakers to improve productive communication skills. Continued practice in all four skills: speaking, listening, reading, writing, with a focus on active communication.

**JAPN 3130. Business and Culture in Japan. (3)** Prerequisite(s): Sophomore, Junior, or Senior standing or permission of department. An introduction to the structure, protocol, and cultural concepts of the Japanese-speaking business world. Development of intercultural understanding and communication skills for conducting business in Japan, including study of basic business vocabulary. Conducted in English.

**JAPN 3140. Anime: Genres, Themes and History. (3)** Prerequisite(s): Sophomore, Junior, or Senior standing or permission of instructor. Introduces students to the diverse and dynamic world of Japanese animation, or anime, by examining its origins and development as a medium, exploring its genres and subgenres, and discussing how it has been interpreted and evaluated by various critics and scholars. Students will also learn how anime relates to the historical, cultural, and aesthetic contexts of its production and reception. Conducted in English.

**JAPN 3201. Upper Intermediate Japanese I. (3)** Prerequisite(s): JAPN 2202 or permission of department. Review of Japanese grammar and guided conversation on prepared topics. Emphasis on spoken Japanese.

**JAPN 3202. Upper Intermediate Japanese II. (3)** Prerequisite(s): JAPN 3201 or permission of department. Review of Japanese grammar and guided compositions on prepared topics. Emphasis on vocabulary, idiomatic expressions, and stylistics.

**JAPN 3203. Upper Intermediate Japanese III. (3)** Prerequisite(s): JAPN 3201. Solidify the grammar, vocabulary, and kanji foundation built during studies at the beginner and second level and expand learners' four language skills (speaking, listening, reading, and writing) and socio-cultural knowledge that they need to communicate.

**JAPN 3225. Short-Term Abroad. (3)** Prerequisite(s): Permission of instructor. Faculty-led short-term study abroad experience offered during Spring Break.

**JAPN 3400. Teaching Practicum. (3)** Pre- or Corequisite(s): One Japanese language course at the 3000 level (JAPN 3201, JAPN 3202 or JAPN 3203), or equivalent with a grade of B or above, or permission of department. An opportunity for interested students to serve as language assistants in upper- and lower-level Japanese language courses, depending on the student's proficiency level in Japanese. Arrangements to take this course should be made during the preceding semester. *Graded on a Pass/No Credit basis. May be repeated for credit one time.*

**JAPN 3800. Directed Individual Study. (1 to 3)** Prerequisite(s): Permission of department. Individual work on a selected area of study with the instructor, generally arranged during the preceding semester. *May be repeated for credit.*

**JAPN 4040. Advanced Topics in Japanese Media and Culture. (3)** Pre- or Corequisite(s): JAPN 3040, JAPN 3130, JAPN 3140, or JAPN 3060 with grade of B or above and/or permission of instructor. More advanced study of media and culture in Japan. The specific content will vary each semester, depending on the instructor. Possible topics include: media ecologies/media mix (franchising, platforms, film, animation, manga, music, fan culture, 2.5D, contents tourism, vtubers), the history of popular music, photography, contemporary literature/literary criticism, critical/cultural theory, and/or various themes (disaster, war, gender/sexuality, ecology, race/ethnicity, technology, migration & diaspora). Taught in English. Japanese language not required. *May be repeated for credit one time with change of topic.*

**JAPN 4050. Topics in Japanese. (1 to 3)** Prerequisite(s): One Japanese language course at the 3000 level (JAPN 3201, JAPN 3202 or JAPN 3203) or permission of the department. Consideration of a predetermined topic not covered by other JAPN courses. *May be repeated for credit with change of topic.*

**JAPN 4101. Japanese Language Proficiency Test (N2) Preparation. (3)** Prerequisite(s): JAPN 3202 with grade of C or above or permission from department. Provides preparation for the Japanese Language Proficiency Test (JLPT) at N2 level.

**JAPN 4100. Japanese Language Proficiency Test (N3) Preparation. (3)** Prerequisite(s): JAPN 3202 with grade of C or above, or permission from department. Provides preparation for the Japanese Language Proficiency Test (JLPT) at N3 level.

**JAPN 4205. Advanced Japanese Oral Communication. (3)** Prerequisite(s): JAPN 3202 or permission of department. Students are paired with native Japanese speakers via an online conferencing or voice program to improve oral production and communication skills. Practice in writing as well as speech and oral presentation.

**JAPN 4206. Advanced Spoken Business Japanese. (3)** Prerequisite(s): JAPN 3201 and JAPN 3202. Provides practical experiences in business Japanese conversation. Students acquire new

expressions appropriate for business interactions. Conducted in Japanese.

**JAPN 4207. Business Japanese Writing. (3)** Prerequisite(s): One Japanese language course at the 3000 level (JAPN 3201, JAPN 3202 or JAPN 3203) or permission of the department. Students learn the ceremonial elements and templated formal structure of Japanese business writing through class activities centered around key expressions and vocabulary. Activities include creating a CV, writing formal emails and proposals, and translating emails from English to Japanese. Offers advanced Japanese students an opportunity to learn Japanese business communications through writing. This helps develop the skills, vocabulary, and expressions necessary to establish relationships and communicate with Japanese clients through writing. Students learn to write a CV, formal emails, and proposals through class activities centered around key expressions and vocabulary, while learning the ceremonial elements and templated formal structures of Japanese business writings.

**JAPN 4410. Professional Internship in Japanese. (1 to 6)** Prerequisite(s): JAPN 3201 and 3202, or equivalent and permission of department. Faculty-supervised field and/or research experience in a cooperating professional (e.g., business) or community organization (e.g., school). Contents of internship based upon a contractual agreement among the student, department, and business or community organization.

**JAPN 4800. Directed Individual Study. (1 to 3)** Prerequisite(s): Permission of department; Japanese major. Individual work on a selected area study to be arranged with the instructor, generally during the preceding semester, and by special permission only. *May be repeated for credit.*

**JAPN 4900. Introductory Research Project. (3)** Prerequisite(s): JAPN 3202 or permission of department. Introduction to research methods and research-based writing in the area of Japanese Studies. Requires students to design and develop an independent project on an approved topic.

**JAPN 4900L. Research Activities in Japan. (1)** Prerequisite(s): JAPN 2201 or permission of department. Enhances student proficiency in the Japanese language through actual communication and conversation with native speakers of Japanese and through seeking research assistance from Japanese students at their host university. Requirement for Japanese major students who study abroad in Japan for a semester or longer. Conducted in Japanese.

# Journalism (JOUR)

**JOUR 2160. Introduction to Journalism. (3)** Prerequisite(s): Pre-Communication or Communication Studies major, or Journalism minor. Introduction to the basics of print journalism. Students cover a variety of stories designed to develop news and feature reporting/writing skills. Emphasis is placed on generating story ideas, making ethical news judgments, diversity issues in journalism, gathering information, and writing and editing articles. Students are also introduced to Associated Press style.

**JOUR 3050. Topics in Journalism. (3)** Prerequisite(s): JOUR 2160. Timely and important areas relevant to journalism. *May be repeated for credit with permission of journalism advisor.*

**JOUR 3160. Advanced News Reporting and Writing. (3)** Prerequisite(s): JOUR 2160 or permission of instructor. This advanced journalism course continues the study of reporting and writing techniques introduced in JOUR 2160. Course covers news reporting and writing, with emphasis on the print media. Students survey a variety of news sources to become familiar with current events and the various approaches and styles of coverage.

**JOUR 3161. News Editing. (3)** Prerequisite(s): JOUR 2160 or permission of instructor. Basic studies in selection, preparation and presentation of news, with primary emphasis on newspapers. Examination of the effects of competition in multimedia news markets. Emphasis on issues of ethics, fairness and accuracy in news coverage. Diversity and legal guidelines affecting news presentation are reviewed.

**JOUR 3162. Feature Writing. (3)** Prerequisite(s): JOUR 2160 or permission of instructor. In depth feature writing for printed newspapers, magazines and newsletters, as well as online publications. Students select feature topics, conduct interviews and gather relevant information to write and edit stories. Students also learn how to market feature articles.

**JOUR 3163. Visual Communication in Media. (3)** Prerequisite(s): JOUR 2160 or permission of instructor. Course familiarizes the student with principles, theory and techniques of visual communication and explores the role and dynamics of shaping an "image" through the use of visual communication. Students are exposed to the editing and production aspects of communication visually.

**JOUR 3401. Journalism Practicum. (2)** Provides students with practical experience working with Student Media on campus. (Two semester enrollment limit)

**JOUR 4410. Professional Internship. (3 or 6)** Prerequisite(s): Junior or Senior standing, Journalism minor, 2.0 GPA in all coursework in the minor, and JOUR 3160 or JOUR 3162. Students work 8-10 hours per week (total 120 hours per semester) for 3 credit hours, or 16-20 hours (total 240 hours per semester) for 6 credit hours in an approved placement. *May be repeated for credit in a different internship with permission of advisor and the Communication Studies Internship Coordinator. Graded on a Pass/No Credit basis.*

# Kinesiology (KNES)

**KNES 1231. Introduction to Adventure Education and Leadership. (2)** Prerequisite(s): Permission of instructor. Introduction to adventure education and experiential learning through team building, reflection, and discussion. Students gain hands-on experience with adventure activities while developing transferable skills in leadership, teamwork, and communication. Open to all students. Serves as a prerequisite for the Outdoor Adventure Leadership minor and Venture Outdoor Leadership employment.

**KNES 2230. Wilderness Experience. (2)** Prerequisite(s): Outdoor Adventure Leadership minor or permission of instructor. Provides

students with a series of progressive challenges, (including challenge course and backcountry travel), and time to reflect on and discuss these challenges. The course goals are two-fold; first, to gain deeper understanding of oneself and relationships through participation in in-depth group experiences, and second, to gain the skills and knowledge necessary for planning and conducting one's own backpacking trips. Field experiences during class and two weekend backpacking trips. A special fee is assessed to cover the costs of the trips.

**KNES 2231. Whitewater Canoeing. (2)** Prerequisite(s): Permission of Instructor. Introduction to whitewater canoeing with emphasis on paddling and safety systems, and the metaphorical and psychological aspects of whitewater paddling. Course includes: classroom sessions, use of lakes, rivers, and off-campus trips. A special fee ($95) will be charged to cover the costs of the trips. No prerequisites. Registration by permission of the instructor.

**KNES 2233. Rock Climbing. (2)** Prerequisite(s): Outdoor Adventure Leadership minor or permission of instructor. Introduction to rock climbing with emphasis on belaying and safety systems, climbing techniques, and the metaphorical and psychological aspects of climbing. Course includes: classroom sessions, use of indoor climbing wall, and weekend trips to outdoor climbing sites. A special fee will be charged to cover the costs of the weekend trips.

**KNES 2236. Challenge Course Activities. (2)** Prerequisite(s): Outdoor Adventure Leadership minor or permission of instructor. Immersion in a developmental small group team experience using a wide variety of challenge course activities (i.e., ropes course, trust exercises, group initiatives.) The focus is on expanding students' self-knowledge and understanding of how to work effectively with and lead others.

**KNES 2238. White Water Kayaking. (2)** Prerequisite(s): Outdoor Adventure Leadership minor or permission of instructor. Offered in conjunction with the U.S. National Whitewater Center (USNWC). An introduction to kayaking with an emphasis on; boat control, safety, the Eskimo roll, river reading and whitewater paddling. Students taking this class must be comfortable being immersed in turbulent water. A special fee is assessed.

**KNES 3230. Wilderness Trip Leading. (3)** Prerequisite(s): Outdoor Adventure Leadership minor or permission of instructor. The broadly accepted skills and knowledge necessary for leading group adventure trips. Includes spring break backpacking trip(s) and classroom sessions. After successful completion of this course students will be eligible to assist with Venture trips. A special fee is assessed to cover the costs of the trips.

**KNES 3231. River Management. (3)** Prerequisite(s): KNES 1231; and Permission of instructor. Prepares students to lead whitewater trips in group contexts such as Outward Bound, summer camps, and Venture's trips. The course may cover a variety of whitewater boats, including rafts, canoes, or kayaks as time and student competence allows. Emphasis is placed on safety, management, and teaching practices as established by the American Canoe Association. The course requires off-campus trips and a special fee is assessed to cover these costs.

**KNES 3233. Rock Climbing Management. (3)** Prerequisite(s): KNES 1231, KNES 2333, or permission of instructor. Rock climbing leadership with emphasis on setting anchors, managing a rock climbing site, safety systems and rescues, and educational facilitation. Special emphasis will be placed on concepts of facilitating programs towards development of character, leadership, and group development. Programming aspects will include pedagogy, psychology, and leadership studies. Includes: classroom sessions, use of indoor climbing wall, and weekend trips to outdoor climbing sites. A special fee is assessed to cover the costs of the weekend trips.

**KNES 3235. Challenge Course Facilitation. (3)** Prerequisite(s): Outdoor Adventure Leadership minor or permission of instructor. Focus on both the technical and facilitation skills and the knowledge necessary for safely and effectively leading groups through high and low challenge courses. In addition to class room sessions, weekend days at the High Team Challenge Course, and observation/apprenticing of actual Venture programs are required.

**KNES 3236. Theory and Foundations of Adventure Education. (3)** Prerequisite(s): Outdoor Adventure Leadership minor or permission of instructor. An exploration of the history, philosophical foundations, proposed outcomes, and operational theories that are common in outdoor adventure education.

**KNES 4431. Outdoor Adventure Leadership Practicum. (2 to 4)** Prerequisite(s): Outdoor Adventure Leadership minor or permission of instructor; and KNES 3230 or KNES 3235. Capstone course for the Minor in Outdoor Adventure Leadership providing an opportunity to take on a defined leadership role with Venture or other outdoor programs. In addition to actual work in the field, there are professional development requirements and a journal of lessons learned.

## Languages, Culture and Translation (LANG)

**LANG 1201. Elementary Foreign Language I. (3 to 4)** Prerequisite(s): Permission of department. Fundamentals of grammar and phonetics, reading, writing, and conversation of a selected language.

**LANG 1202. Elementary Foreign Language II. (3 to 4)** Prerequisite(s): LANG 1201 or permission of department. Continuation of LANG 1201.

**LANG 1205. Accelerated Elementary Foreign Language I and II. (3 to 4)** Fundamentals of grammar and phonetics, reading, writing, and conversation of a selected language offered at an accelerated pace for students with some background in the language. Equivalent to LANG 1201 and LANG 1202 in one semester. Fulfills a two-semester language requirement. *May be repeated with different foreign language.*

**LANG 1206. Intensive Elementary Foreign Language I and II. (6 to 8)** Fundamentals of grammar and phonetics, reading, writing, and conversation of a selected language offered at an intensive pace for students. No prior knowledge of the language is required. Equivalent to LANG 1201 and LANG 1202 in one semester. Fulfills two-semester foreign language requirement.

**LANG 1502. Global Arts/Humanities: Introduction to Global Cultures. (3)** This Global Theme course uses the methods and insights of the arts and humanities to explore the central question of what it means to be a citizen of the world. Through the study of one or more different peoples, societies or cultures across the globe, students will be able to better understand themselves as part of complex, interconnected world. Students have the opportunity to learn about the languages, literatures, and cultures of people and societies across the world. The focus is comparative, with students learning about peoples and cultures from countries that speak at least two different (non-English) languages.

**LANG 2050. Topics in Foreign Language. (1 to 4)** Studies in a selected field of interest. *May be repeated for credit with change of topic.*

**LANG 2201. Intermediate Foreign Language. (3 to 4)** Prerequisite(s): LANG 1202 or permission of department. Grammar review, conversation, composition, and readings based on the culture and civilization.

**LANG 2202. Intermediate Foreign Language. (3 to 4)** Prerequisite(s): LANG 2201 or permission of department. Grammar, conversation, composition, and readings based on students' needs.

**LANG 3050. Topics in Language, Literature, and Culture. (3)** Studies in a selected field of interest. *May be repeated for credit with change of topic.*

**LANG 3051. Topics in Language, Literature, and Culture. (1 to 3)** Studies in a selected field of interest. *May be repeated for credit with change of topic.*

**LANG 3160. European Cinema. (3)** Prerequisite(s): Sophomore, Junior, or Senior standing; and WRDS 1103 or WRDS 1104 with a grade of C or above. Introduction to films of the various national cinemas of Europe and strategies for analyzing and discussing film critically and effectively. Lectures, discussions, viewing films, writing assignments, reviews, critiques, and analyses.

**LANG 3201. Advanced Foreign Language I. (3)** Prerequisite(s): LANG 2202 or permission of department. Review of grammar and guided conversation on prepared topics. Emphasis on spoken language.

**LANG 3202. Advanced Foreign Language II. (3)** Prerequisite(s): LANG 3201 or permission of department. Review of grammar and guided compositions on prepared topics. Emphasis on vocabulary, idiomatic expressions, and stylistics.

**LANG 3700. Methods in Honors Research. (3)** Prerequisite(s): Permission of instructor. The first course in a required two-course sequence for Honors in Languages and Culture Studies. Prepares students for field research and writing of an honors project or thesis. During this course, students are trained in the field of research and writing in the field of Languages and Culture Studies; they develop and revise a research prospectus. Students must pass with a grade of A (or B with approval from the Honors Director to take LANG 4700).

**LANG 3800. Directed Individual Study. (1 to 3)** Prerequisite(s): Permission of department; normally open only to foreign language majors and minors. Individual work on a selected area of study. To be arranged with the instructor, generally during the preceding semester, and by special permission only. *May be repeated for credit.*

**LANG 4050. Topics in Foreign Language. (3)** Prerequisite(s): Senior standing or permission of department. Studies in a selected field of interest. *May be repeated for credit with change of topic.*

**LANG 4410. Professional Internship. (1 to 3)** Prerequisite(s): ARBC 3201 and ARBC 3202; CHNS 3201 and CHNS 3202; FREN 3201 and FREN 3202; GERM 3201 and GERM 3202; ITLN 3201 and ITLN 3202; JAPN 3201 and JAPN 3202; PORT 3201 and PORT 3202; RUSS 3201 and RUSS 3202; or SPAN 3201 and SPAN 3202; and proficiency at 3000 level and permission by department. Offers students a faculty-supervised field and/or research experience in a cooperating professional or community organization in which a language other than English is used to complete tasks. Students gain oral and written proficiency in both English and another language in a professional environment. This course does not convene in a classroom; instead, students complete 120 hours at the site of their assigned internship during 16 weeks of the semester. *Graded on a Pass/No Credit basis. May be repeated for credit with permission of department.*

**LANG 4690. Senior Seminar. (1)** Prerequisite(s): four or more courses at the 3000 or 4000 level in the major or permission of department. Survey of career options for foreign language majors, directed professional development (preparation of resume and portfolio), and completion of departmental required assessments in the areas of speaking, reading, writing, grammar, and content knowledge of the major. *Graded on a Pass/No Credit basis.*

**LANG 4700. Honors Project. (3)** Prerequisite(s): LANG 3700; permission of Honors Director; minimum GPA of 3.5 in Languages and Culture Studies major or minor; and a cumulative GPA of 3.0. The second course in the honors sequence. Directed research and writing of an honors project or thesis. May be written in English or in target language. Students must pass with grade of A to receive honors; students who pass with a B or below will receive credit for a 4000-level elective, as well as a W credit.

**LANG 4800. Directed Individual Study. (1 to 3)** Prerequisite(s): Permission of department; normally open only to foreign language majors and minors. Individual work on a selected area of study. To be arranged with the instructor, generally during the preceding semester, and by special permission only. *May be repeated for credit.*

# LEADS (LEAD)

**LEAD 2600. LEADS Foundations. (1)** Prerequisite(s): Freshman or Sophomore standing. Cross-listed Course(s): COSC 2600. An introduction to LEADS focused on providing opportunities for students to engage with the key pillars of LEADS. Through a series of highly personalized activities, the course emphasizes career skill development and the practice of innovative thinking and problem solving. Upon successful completion of this course, students should be able to display attitudes, skills, and behaviors that are needed to succeed academically, personally, and professionally.

**LEAD 3000. LEADS (1 to 4)** Prerequisite(s): Sophomore, Junior, or Senior standing. Cross-listed Course(s): COSC 3000. This LEADS course addresses a rotating series of topics each semester. Details of the topic

will be listed in the long title and in the section information text in the schedule of classes. Course may be repeated for credit when new topics are offered. *May be repeated for credit with change of topics and permission of student's major department.*

**LEAD 3010. LEADS Topics in Innovative Thinking. (1 to 3)** Prerequisite(s): Restricted to students with sophomore or higher class standing. For students interested in practicing innovative problem solving and learning to make an impact. Rotating topics are focused on supporting students as they grow a toolkit to help them identify problems, develop creative solutions, and take steps to translate ideas to action. Class activities are designed to provide practical experience in ideation, research, collaboration, creativity, and resilience. *May be repeated for credit with change of topic.*

**LEAD 3020. LEADS Topics in Professionalism. (1 to 3)** Prerequisite(s): Restricted to students with sophomore or higher class standing. For students interested in exploring a conceptual and practical approach to becoming a professional. Rotating topics provide students the opportunity to learn about various types of work and practice professional presentation of self, creation of professional documents, networking, and other forms of professional communication. *May be repeated for credit with change of topic.*

**LEAD 3030. LEADS Topics in Leadership. (1 to 3)** Prerequisite(s): Restricted to students with sophomore or higher class standing. For students interested in expanding their leadership toolkit. Rotating topics provide students the opportunity to explore and apply various leadership theories to real world scenarios. Class activities are designed to provide practical experience while promoting increased self-awareness and enhanced capacity as a leader. *May be repeated for credit with change of topic.*

**LEAD 3040. LEADS Topics in Life Design. (1 to 3)** Prerequisite(s): Restricted to students with sophomore or higher class standing. For students interested in exploring their personal and professional values and applying them to evaluate potential career paths. Rotating topics provide students the opportunity to identify their values and skills, reflect on past experience, and develop strategies for leveraging strengths in pursuit of meaningful work. *May be repeated for credit with change of topic.*

**LEAD 3410. LEADS Course-Based Internship Experience. (1 to 3)** Prerequisite(s): Restricted to students with sophomore or higher class standing. A course-based internship experience is unique in that it pairs a classroom learning experience with an internship experience to provide students with an opportunity to gain meaningful experience. Each semester the class will partner with an organization that brings a specific challenge to the class. The first part of the semester will focus on developing the theoretical frameworks and tools needed to address the challenge. From there, students will work in interdisciplinary teams to develop creative solutions and deliverables for the partnering organization. *May be repeated for credit with change of partnering organization.*

**LEAD 3800. LEADS Special Projects. (1 to 3)** Prerequisite(s): Restricted to students with sophomore or higher class standing. For students working on unique projects and initiatives that may involve campus, organizational, or community partners. Participating students will work with the LEADS program director and partners/stakeholders to identify project tasks, milestones, and deliverables. *May be repeated for credit with change of topic.*

# Liberal Studies (LBST)

**LBST 1101. The Arts and Society: Dance. (3)** An introduction to dance in the context of the arts and society. Exploration of the similarities among selected dance traditions from around the world in terms of functionality; how 20th and 21st century American concert dance, social dance, and popular entertainment dance reflect those traditions; socio-political issues evidenced in choreography through lectures, discussion, film video, and live dance performance. *May not be repeated for credit. May not be taken for credit and for a grade if credit has been received for DANC 1502.*

**LBST 1102. The Arts and Society: Film. (3)** An introduction to the art of film in the context of the arts and society. Analysis of the elements of narrative and documentary film, including works made for television. Examines the role of Hollywood, international, and independent cinema (including television) in reflecting, shaping, and critiquing society. *May not be repeated for credit.*

**LBST 1103. The Arts and Society: Music. (3)** An introduction to music in the context of the arts and society. Students experience a wide range of musical styles, approaches to musical performance, and perspectives on the diverse role of music within society in cultures from around the world. Students form communication skills by learning and applying basic musical terminology, developing critical and thoughtful listening skills, and examining how individual perspectives impact music in its creation and its acceptance. *May not be repeated for credit. May not be taken for credit and for a grade if credit has been received for MUSC 1502.*

**LBST 1104. The Arts and Society: Theater. (3)** An introduction to theater in the context of the arts and society. Analysis of the elements that make up theatrical events. The place of theater in reflecting, shaping, and critiquing society. *May not be repeated for credit. May not be taken for credit and for a grade if credit has been received for THEA 1502.*

**LBST 1105. The Arts and Society: Visual Arts. (3)** An introduction to the visual arts in the context of the arts and society. The analysis of visual culture in a variety of media and genres in different historical periods and geographic locations. The function, meaning, and politics of individual works of art and art movements. Also addresses the role of art as a site for the articulation of value systems, including gender, class, and race. *May not be repeated for credit. May not be taken for credit and for a grade if credit has been received for ARTA 1502.*

**LBST 2101. Western Cultural and Historical Awareness. (3)** All sections of this course explore a major aspect of Western culture. Particular attention is given to an examination of the constructed nature of the present through a close examination of the past and the ways that selected institutions, ideas, or practices change over time and spread in

human society, producing both continuity and novelty. *May not be repeated for credit.*

**LBST 2102. Global and Intercultural Connections. (3)** All sections of this course examine two or more cultures in their own contexts and in the contexts of the global conditions and influences that impact all major world cultures today. Particular attention is given to an analysis of the complex nature of globalization and to a consideration of both its positive and negative impacts. *May not be repeated for credit.*

**LBST 2211. Ethical Issues in Personal, Professional, and Public Life. (3)** An analysis of the conceptual tools needed to make informed, responsible judgments based on the ability to think critically and knowledgeably about issues of personal, professional, and public ethics and morality. The study of a variety of ethical views and ethical issues. *May not be repeated for credit.*

**LBST 2212. Literature and Culture. (3)** Examination of the connections between literature and culture. Students are offered the opportunity to examine the roles that literature plays in reflecting, shaping, and challenging cultures. *May not be repeated for credit.*

**LBST 2213. Science, Technology, and Society. (3)** The role of science and technology in society. The appreciation and understanding of science and the public policy issues related to science and technology. Issues such as science vs. pseudo-science, the ethics of science and technology, the methods of the sciences, the importance of major scientific discoveries, and public expectations of the sciences. *May not be repeated for credit.*

**LBST 2214. Issues of Health and Quality of Life. (3)** A study of individual and social aspects of health. Analysis of individual health and illness behavior and theory; the social, political, and economic contexts of health and illness; and the broad cultural, ethical, and religious understandings of health and illness. *May not be repeated for credit. May not be taken for credit and for a grade if credit has been received for HAHS 1511.*

**LBST 2215. Citizenship. (3) (SL)** A study of the concept of citizenship as it has evolved in different cultures with an emphasis on scholarly understandings of the rights and responsibilities of citizenship. Includes an examination of the ethical dimensions of citizenship in political, social, and religious contexts. Includes a service component that allows students to explore the relations of citizenship and public service. During the semester the course meets a total of 27 hours for classroom lectures and discussions and requires completion of 25 hours of voluntary service in the community. *May not be repeated for credit.*

**LBST 2301. Critical Thinking and Communication. (3)** Prerequisite(s): Sophomore standing or higher; and WRDS 1103 or WRDS 1104 with a grade of C or above. This Critical Thinking and Communication (CTC) course is part of an integrated First-Year Writing and Liberal Studies curriculum that develops critical thinking and communication skills. Students undertake an inquiry process and build towards the preparation of a polished product at the end of the semester. The specific subject matter for sections of this course vary since the focus is on developing competencies. *May not be repeated for credit. May not be taken for credit and for a grade if credit has been received for CTCM 2530.*

# Legal Studies (LEGL)

**LEGL 1100. Introduction to Law and the Legal System. (3)** Prerequisite(s): Declared major at UNC Charlotte and Freshman, Sophomore, or Junior standing. The study of the role of law in society, introducing students to the organization and operation of the American legal system, basic concepts of substantive and procedural law, cases, and statutes.

**LEGL 1105. Critical Thinking. (3)** Cross-listed Course(s): PHIL 2100. Prerequisite(s): Legal Studies minor. Fundamental skills of clear thinking that help students reason better during communication, problem-solving, and design, particularly as these integrate scientific/engineering efforts with social needs and values. Focuses on clarifying goals, identifying constraints, and generating and evaluating ideas or solutions. Students are ineligible to take this course if credit has already been received for LEGL 1106.

**LEGL 1106. Critical Thinking. (3)** Prerequisite(s): Legal Studies minor. Fundamental skills of clear thinking that help students reason better during communication, problem-solving, and design, particularly as these integrate scientific/engineering efforts with social needs and values. Focuses on clarifying goals, identifying constraints, and generating and evaluating ideas or solutions. Students are ineligible to take this course if credit has already been received for LEGL 1105.

**LEGL 2103. Argumentation and Debate. (3)** Cross-listed Course(s): COMM 2103. Prerequisite(s): Legal Studies minor. Introduction to the basic theory and skills of argumentation and debate. Assumptions of argumentation, evidence, reasoning, argument construction, cross-examination, refutation, and ethics included.

**LEGL 2105. Deductive Logic. (3)** Cross-listed Course(s): PHIL 2105. Prerequisite(s): Legal Studies minor. Principles of deductive logic, both classical and symbolic, with emphasis on the use of formal logic in analysis of ordinary language discourse.

**LEGL 2131. Introduction to Forensic Psychology. (3)** Cross-listed Course(s): PSYC 2131. Prerequisite(s): Legal Studies minor. Overview of the field of forensic psychology, including the history of the discipline, and legal and ethical issues such as criminal profiling, definition of "insanity," eyewitness identification, and jury selection.

**LEGL 2320. Introduction to Courts. (3)** Cross-listed Course(s): CJUS 2320. Prerequisite(s): Legal Studies minor and Junior or Senior standing. Analysis of the court area of criminal justice with emphasis on social science literature concerning prosecutors, defense attorneys, judges, juries, and court reform policies.

**LEGL 3000. Topics in Legal Studies. (3)** Prerequisite(s): Legal Studies minor. An intensive study of a specialized substantive legal area. The particular topic investigated may vary from semester to semester. *May be repeated with change of topic.*

**LEGL 3100. Topics in Legal Skills. (3)** Prerequisite(s): Legal Studies minor. An intensive study of a specialized legal skill area. The particular topic investigated may vary from semester to semester. *May be repeated with change of topic.*

**LEGL 3113. Constitutional Law and Policy. (3)** Cross-listed Course(s): POLS 3114. Prerequisite(s): Legal Studies minor. Development of American constitutionalism (especially federalism and the separation of powers) with major emphasis on constitutional law as a form of public policy and the U.S. Supreme Court as a policy maker.

**LEGL 3115. Civil Rights and Liberties. (3)** Cross-listed Course(s): POLS 3115. Prerequisite(s): Legal Studies minor. Utilizes public policy analysis to illuminate judicial decisions and opinions relating to contemporary civil rights and liberties.

**LEGL 3116. Judicial Process. (3)** Cross-listed Course(s): POLS 3116. Prerequisite(s): Legal Studies minor. Introduction to the nature and functions of law; survey of Supreme Court decision making.

**LEGL 3117. Gender and the Law. (3)** Cross-listed Course(s): POLS 3117. Prerequisite(s): Legal Studies minor. Examines the role gender plays in various aspects of the legal system in the United States. Topics include: the statutory and constitutional provisions that govern discrimination based on gender (e.g., Title VII, the 14th Amendment Equal protection clause) and the role that gender plays in judicial decision making (e.g., the influence of judge, attorney, party, and juror gender on legal outcomes).

**LEGL 3137. International Human Rights. (3)** Cross-listed Course(s): GLST 3137 and POLS 3137. Prerequisite(s): Legal Studies minor. Introduction to the historical foundations and current practices of the international human rights regime. Discussions center primarily on three topics: 1) the conceptual and historical origins of the international regime designed to protect human rights, 2) patterns of and explanations for human rights violations over time and space, and 3) potential international and domestic solutions to protect human rights. During the discussion of these topics, students learn about contemporary issues in human rights, as well as how theory applies to current events and individual cases.

**LEGL 3141. Organizational Communication. (3)** Cross-listed Course(s): COMM 3141. Prerequisite(s): Legal Studies minor and COMM 2100. Examines the importance of the operation of communication processes within organizations and between organizations and their environments.

**LEGL 3162. International Law. (3)** Cross-listed Course(s): POLS 3162. Prerequisite(s): Legal Studies minor. Historical and political analysis of the sources and development of international law. Particular attention is given to the role of modern international law in the relations of nation-states and its application to contemporary global problems.

**LEGL 3175. Philosophy of Law. (3)** Cross-listed Course(s): POLS 3175. Prerequisite(s): Legal Studies minor. Philosophy underlying the legal system and the Anglo-American practice of law. Topics include: what is "law;" obligation to obey the law, liberty, privacy and tolerance; and criminal responsibility and punishment.

**LEGL 3241. Race and the Law. (3)** Cross-listed Course(s): AFRS 3240 and HIST 3240. Prerequisite(s): Legal Studies minor. Explores the unique role law has played in establishing the status of persons of African descent in the Americas, with a focus on the United States. Students investigate how the legal history of African Americans has shaped American race relations over the past 400 years by tracing the evolution of race, racism, and racial formations as a function of America's legal system. *May be repeated for credit.*

**LEGL 3320. Criminal Justice and the Law. (3)** Cross-listed Course(s): CJUS 3320. Prerequisite(s): Legal Studies minor and Junior or Senior standing. Nature and development of criminal law including the concepts of criminal liability, responsibility, and capacity; comprehensive analysis of the various crimes against persons, property, and morality.

**LEGL 3321. Criminal Procedure. (3)** Cross-listed Course(s): CJUS 3321. Prerequisite(s): Legal Studies minor and Junior or Senior standing. Examines the rules that govern everyday operation of the criminal justice system from investigation to appeal.

**LEGL 3354. Punishment and Freedom. (3)** Cross-listed Course(s): CJUS 3354 and HONR 3700-H01. Prerequisite(s): Legal Studies minor and Junior or Senior standing. Examines the manner in which the notions of freedom and punishment are fundamentally bound to one another, and how, at their intersections, these constructs are the source of considerable speculation regarding consumerism, democracy, capitalism, and ethics.

**LEGL 3363. Mediation and Conflict Resolution. (3)** Cross-listed Course(s): CJUS 3363. Prerequisite(s): Legal Studies minor and Junior or Senior standing. Introduction to conflict and dispute resolution, with a specific emphasis on mediation. Course format includes lecture, case studies, and practice mediation role plays with instructor and peer feedback.

**LEGL 3810. Social and Political Philosophy. (3)** Cross-listed Course(s): PHIL 3271 and POLS 3177. Prerequisite(s): Legal Studies minor. Examination of basic concepts involved in understanding the nature and structure of political and social formations. Issues may include topics such as justice, human rights, the nature of political power, and the relations between individuals and political/social institutions. Readings from historical and/or contemporary sources, and may include figures such as Plato, Hobbes, Marx, Rawls, Arendt, Foucault, and Butler.

**LEGL 4101. Media and the Law. (3)** Cross-listed Course(s): COMM 4101. Prerequisite(s): Legal Studies minor. Survey of legal rights, restrictions, and ethical considerations in field of communication including the First Amendment, libel, invasion of privacy, obscenity law, regulation of electronic media, relationships between media and judiciary.

**LEGL 4110. North Carolina Student Legislature. (3)** Cross-listed Course(s): POLS 4110. Prerequisite(s): Legal Studies minor and permission of instructor. Practicum including workshops, seminars, and guest speakers on legislative process and research, parliamentary procedure, and resolution and bill drafting; participation in an interim council debate at one of the member campuses for one weekend each month during the semester and participation in the NCSL annual session in Raleigh.

**LEGL 4265. Social Psychology of Law. (3)** Prerequisite(s): Legal Studies minor. Systematic analysis and application of theoretical and empirical research pertaining to the social psychological study of law.

**LEGL 4320. Evidence. (3)** Cross-listed Course(s): CJUS 4320. Prerequisite(s): Legal Studies minor and Junior or Senior standing. A critical examination of the use of evidence within the criminal courtroom.

Emphasis placed on the rules of courtroom evidence with particular attention to the proper search and seizure of evidence.

## Levine Scholars (LEVN)

**LEVN 1710. Levine Scholars Fall Freshman Seminar. (1)** Utilizing lectures, discussions, and group activities, this course addresses issues of personal development, transition to college, and connection to the Charlotte community. Building on the NOLS experience, participation in activities both inside and outside of the classroom provides students with the tools for self-reflection, goal setting, and utilizing University resources.

**LEVN 1711. Levine Scholars Spring Freshman Seminar. (1)** Continues the development of Levine Scholarship students as campus and community leaders. Students work together on campus-wide events, develop a mentorship program for the next year's incoming Freshman class, work with community organizations, and develop their individualized plans for their summer internships and civic engagement opportunities.

**LEVN 2710. Levine Scholars Sophomore Seminar. (1)** Immerses students in two of the critical components of the Levine Scholars Program: grant proposal writing and enhanced leadership development. Through class discussions, assigned readings, and active learning opportunities, Sophomores are given the tools to understand elements of non-profit organizations, write proposals to fund their civic engagement projects, and become student leaders.

## Latin American Studies (LTAM)

**LTAM 1501. Global Social Science: Introduction to Latin American Politics and Society. (3)** Cross-listed Course(s): ANTH 1501; POLS 1501; SOCY 1501. This Global Theme course uses the methods and insights of the social sciences to explore the central question of what it means to be a citizen of the world. Through the study of one or more different peoples, societies or cultures across the globe, students will be able to better understand themselves as part of complex, interconnected world. Students are introduced to world society and politics by focusing on the peoples of Latin America and the social dynamics that exist in the societies where they live.

**LTAM 1502. Global Arts/Humanities: Introduction to Latin American History and Culture. (3)** Cross-listed Course(s): HIST 1502, LANG 1502, SPAN 1502. This Global Theme course uses the methods and insights of the arts and humanities to explore the central question of what it means to be a citizen of the world. Through the study of one or more different peoples, societies or cultures across the globe, students will be able to better understand themselves as part of complex, interconnected world. Students are introduced to world art, history, and culture by focusing on key events, people, and societies from Latin America. *May not be taken for credit and for a grade if credit has been received for LTAM 1100.*

**LTAM 2001. Topics in Latin American Studies. (3)** Analysis of a selected topic related to Latin American Studies. Fulfills an elective in the "Economy and Society" course requirements. *May be repeated for credit with change of topic.*

**LTAM 2002. Topics in Latin American Studies. (3)** Analysis of a selected topic related to Latin American Studies. Fulfills an elective in the "Historical Perspective" course requirements. *May be repeated for credit with change of topic.*

**LTAM 2003. Topics in Latin American Studies. (3)** Analysis of a selected topic related to Latin American Studies. Fulfills an elective in the "Arts and Literature" course requirements. *May be repeated for credit with change of topic.*

**LTAM 2106. Religion in Latin America. (3)** Cross-listed Course(s): RELS 2106. Examines the diversity of religion in Latin America from the pre-colonial period through the present, with special attention to how the intercultural encounters between Indigenous Americans, Africans, and Europeans have shaped religious identities, practices, and institutions in the region.

**LTAM 2116. Contemporary Latin America. (3)** Cross-listed Course(s): ANTH 2116. A survey of the people and cultures of Mexico, Central America, South America, and the Caribbean. Areas of investigation include religion, race, ethnicity, gender, kinship, social inequality, and economic development.

**LTAM 2117. Cultures of the Caribbean. (3)** Cross-listed Course(s): ANTH 2117 and GLST 3114. An introduction to society and culture in the Caribbean region. Areas of investigation include ethnicity, nationalism, family and community structure, economy, religion, and politics.

**LTAM 2206. Colonial Latin America. (3)** Cross-listed Course(s): HIST 2206. A survey of major political, economic, and cultural developments from earliest times to 1826.

**LTAM 2207. Modern Latin America. (3)** Cross-listed Course(s): HIST 2207. A survey of Latin American history from 1826 to the present with emphasis on the economy and society. Special attention to twentieth-century revolutions and the role of the United States in Latin America.

**LTAM 2252. New World Archaeology. (3)** Cross-listed Course(s): ANTH 2152. Prehistory of North America; Paleoindians, Eastern United States, Southwest, Mexico; archaeological methods and theory.

**LTAM 2270. Latino/as in the United States, 1846 to Present. (3)** Cross-listed Course(s): HIST 2170. A survey of the diverse Latino/a experience in the United States from the Mexican-American War to the present, with emphasis on the twentieth century and contemporary issues. Themes include colonialism, immigration policies, transmigration, labor, rural and urban life, culture, political and environmental activism, and race relations.

**LTAM 3001. Advanced Topics in Latin American Studies. (3)** Analysis of a selected topic related to Latin American Studies. Fulfills an elective in the "Economy and Society" course requirements. The particular topic of the course may vary from semester to semester. *May be repeated for credit with change of topic.*

**LTAM 3002. Advanced Topics in Latin American Studies. (3)** Analysis of a selected topic related to Latin American Studies. Fulfills an elective

in the "Historical Perspectives" course requirements. The particular topic of the course may vary from semester to semester. *May be repeated for credit with change of topic.*

**LTAM 3003. Advanced Topics in Latin American Studies. (3)** Cross-listed Course(s): ENGL 3125. Analysis of a selected topic related to Latin American Studies. Fulfills an elective in the "Arts and Literature" course requirements. The particular topic of the course may vary from semester to semester. *May be repeated for credit with change of topic.*

**LTAM 3120. Spanish for Business and International Trade. (3)** Cross-listed Course(s): SPAN 3220. Introduction to spoken and written language of the Spanish-speaking business world. Acquisition of and practice with general commercial terminology used in Spanish for such functional business areas as economics, management, marketing, finance, and import-export.

**LTAM 3129. Cultural Dimension of Doing Business with Spanish-Speaking Countries (3)** Prerequisite(s): WRDS 1103 or WRDS 1104. Development of cultural awareness for conducting business with Spanish-speaking countries and U.S. Hispanic communities. Conducted in English.

**LTAM 3144. Latin American Politics. (3)** Cross-listed Course(s): POLS 3144. Comparative overview of political and socio-economic change in Latin America from the colonial period to the present. Primary emphasis on Latin American politics in the twentieth century, competing political ideologies, socio-economic issues, international political economy, and internal political change.

**LTAM 3154. Political Economy of Latin America. (3)** Cross-listed Course(s): POLS 3155. Intersections of politics and economics in Latin America, focusing on the efforts to foster economic development in the region. Emphasis on post-World War II era. Topics include: debt management, dependency theory, impact of free market theories, and the power of labor movements.

**LTAM 3164. U.S.-Latin American Relations. (3)** Cross-listed Course(s): POLS 3164. Addresses the always-complicated and often-conflictive relationship between Latin American and the United States. Particular attention to critical contemporary issues such as the drug trade, immigration, international trade, humanitarian aid and U.S. policy toward Cuba.

**LTAM 3220. The Caribbean from Slavery to Independence. (3)** Cross-listed Course(s): HIST 3180. Covering the sweep of history from European/indigenous contact, through the construction of a plantation regime based on African slave labor, and up to the present day, this course explores the spread of colonialism, the dynamics of slavery, and the tumult of abolition and national independence movements. The Caribbean Sea will be examined as a region, emphasizing the ties uniting the islands and the circum-Caribbean coasts. The region's past - including empire and imperial conflict, racial oppression and interaction, and international contact - and its legacies will be discussed in relation to political economics, race, and contemporary culture.

**LTAM 3255. Ancient Latin America. (3)** Archaeology and ethnohistory of the Aztecs, Maya, Inca, and their predecessors; includes an investigation of prehistoric urbanism, the rise and fall of complex societies, and the application of archaeological methods to complex societies.

**LTAM 3257. South American Prehistory. (3)** Cross-listed Course(s): ANTH 3157. Archaeology of the indigenous cultures in South America from the earliest settlement until the arrival of the Spanish, including Moche, Nasca, and Inca; focus on the Central Andean region including Peru, Bolivia, Chile, and Ecuador; examination of the origins of agriculture, interactions of people and the environment, rise and collapse of states and empires, and the role of religion and warfare in ancient societies.

**LTAM 3260. Slavery, Racism, and Colonialism in the African Diaspora. (3)** Cross-listed Course(s): AFRS 3260 and HIST 3190. This course is designed to explore how race and racism, slavery, and colonialism served as principal institutions and constructs shaping the experience between Africa and the emerging African Diaspora in the New World. Students will consider how the maintenance of Western social, economic, and political superiority materialized as functions of these three important historical developments.

**LTAM 3270. Afro-Latin American History. (3)** Cross-listed Course(s): AFRS 3270 and HIST 3181. This course explores the African Diaspora in Latin America ranging from the Caribbean Sea to the Rio de la Plata. From slavery, to fighting for freedom in the Spanish-American Wars of Independence, to forging new notions of citizenship in twentieth century Brazil, African-descended peoples have an important place in Latin America's historical past. According special attention to regions with concentrated populations of African-descended peoples, this course reveals the vibrant history of Afro-Latin America.

**LTAM 3275. Reform, Riots, and Rebellions in Colonial Spanish America, 1692-1825. (3)** An examination of the economic, political, and cultural origins of violent conflict in colonial Latin America, culminating with an analysis of the revolutions for independence.

**LTAM 3276. History of Mexico. (3)** Cross-listed Course(s): HIST 3176. An examination of Mexican history from pre-Columbian times to the present. Special emphasis is given to the Spanish conquest, the colonial economy, the independence period, the revolution, and relations with the United States. Meets non-Western requirement.

**LTAM 3277. The Cuban Revolution. (3)** An examination of the economic and political forces that led to the Cuban revolution. Significant background material from the 19th and early 20th centuries are presented in addition to an analysis of the revolution and post-revolutionary events.

**LTAM 3278. History of Brazil. (3)** Cross-listed Course(s): AFRS 3278 and HIST 3178. A study of Brazilian history since 1500, with an emphasis on social and economic history. The course emphasizes slavery and race relations, the emergence of export economics, rural protest movements, the effects of urbanization and industrialization, and the rise and fall of the military dictatorship. Meets non-Western requirement.

**LTAM 3279. Authoritarianism in Latin America. (3)** Cross-listed Course(s): HIST 3179. A study of authoritarian rule and resistance thereto in one or more selected Latin American countries, including but not limited to Argentina, Brazil, and Chile. *May be repeated for credit with change of topic.*

**LTAM 3301. Mexica (Aztec) Art. (3)** Cross-listed Course(s): ARTH 3318. Survey of the cultures, artistic production and architecture of the Central Mexico region from c. 1300 to the period of European invasion in the 16th century. Readings and discussions focus on artistic traditions, daily life, and political structures.

**LTAM 3308. Introduction to Literary Analysis. (3)** Cross-listed Course(s): SPAN 3208. Continued work with vocabulary building and reading skills. Introduction to the theory and practice of reading literary texts in Spanish.

**LTAM 3309. Masterpieces of Hispanic Literature in English Translation. (3)** Cross-listed Course(s): SPAN 3009 if course is on Latin America topic. Prerequisite(s): Sophomore, Junior, or Senior standing; and WRDS 1103 or WRDS 1104 with a grade of C or above. Advanced studies of Spanish or Spanish-American literature in English translation. Conducted in English. *May be repeated for credit with change of topic.*

**LTAM 3310. Spanish American Civilization and Culture. (3)** Cross-listed Course(s): SPAN 3210. Pre- or Corequisite(s): SPAN 3201, SPAN 3202, SPAN 3203, or permission of department. Introduction to the cultural heritage of Spanish America.

**LTAM 3313. Pre-Columbian Art. (3)** Cross-listed Course(s): ARTH 2003. Survey of the arts and architecture of the Americas before European contact in the 16th century. Special emphasis on the interactions of religion, social systems, and the arts as well as identification of ethnic styles of art. Discussions of readings, lectures, slides and video tapes. Essay exams.

**LTAM 3319. Hispanic Women Writers in English Translation. (3)** Cross-listed Course(s): SPAN 3019 and WGST 3019. Prerequisite(s): Sophomore, Junior, or Senior standing; and WRDS 1103 or WRDS 1104 with a grade of C or above. Examination of prose and poetry by women writers from Spain and the Americas to understand women's voices and other cultures. Conducted in English; knowledge of Spanish not required.

**LTAM 3325. Introduction to U.S. Latinx Literature. (3)** Cross-listed Course(s): ENGL 3125. Examines contemporary and recent literatures written in English in the U.S. by Latinx writers, designed to introduce students to the variety of texts and contexts which shape contemporary U.S. Latinx literary experiences.

**LTAM 3360. Studies in Hispanic Film (3)** The study of Spanish, Spanish American and/or Hispanic/Latino films. Course conducted in English. *May be repeated for credit with change of topic.*

**LTAM 3361. Studies in Latin American Film. (3)** The study of Latin American film. Conducted in English.

**LTAM 3362. Studies in US Latino/a Cinema. (3)** Despite belonging to the largest minority group in the United States, Latinos/as in this country have historically not enjoyed significant representation in Hollywood. Nevertheless, in recent years, there has been a handful of excellent films-both independent and even in Hollywood-that explore Latino/a identity in America. In this course, several films are watched and discussed that demonstrate how race, ethnicity, gender, and the family come together to create unique circumstances for people of Latin American descent, particularly youth, when they come to this country.

**LTAM 3400. Latin American Studies Internship. (1 to 3)** Prerequisite(s): permission of the coordinator. Practical experience and/or training related to Latin American studies. A minimum of 45 hours per credit.

**LTAM 3800. Independent Study. (1 to 3)** Supervised investigation of an issue related to Latin American Studies that is of special interest to the student and that is not covered in existing or available courses.

**LTAM 4010. Special Topics in Latin American Social Science. (3)** Includes courses from disciplines like Anthropology, Geography, Political Science, Sociology, etc. *May be repeated for credit with change of topic.*

**LTAM 4020. Topics in Latin American Historiography. (3)** Research seminar examining scholarly trends and debates in the field of Latin American History. Meets the LTAM major historiography requirements. Students must achieve a grade of C or above to satisfy major requirements. *May be repeated for credit with change of topic.*

**LTAM 4030. Topics in Latin American Humanities. (3)** Special topics in Latin American humanities. Courses focus on the artists, philosophers, writers, and other cultural production and cultural producers from Latin America. *May be repeated for credit with change of topic.*

**LTAM 4116. Culture and Conflict in the Amazon (3)** Examines the development strategies Brazil has used in the Amazon and explores how these policies have affected both the environment and the various populations living in the Amazon. Topics covered include environmental degradation, human rights abuses, culture change, migration, and globalization. .

**LTAM 4120. Advanced Business Spanish I. (3)** Cross-listed Course(s): SPAN 4120. Prerequisite(s): SPAN 3201, SPAN 3202, or SPAN 3203; and SPAN 3220; or permission of department. Advanced studies in Business Spanish, intensive intercultural communication practice in speaking, listening comprehension, reading, writing, and translation/interpretation in functional business areas such as economics, management, banking, accounting, real estate, office systems, and human resources.

**LTAM 4121. Advanced Business Spanish II. (3)** Cross-listed Course(s): SPAN 4121. Prerequisite(s): SPAN 3201, SPAN 3202, or SPAN 3203; and SPAN 3220; or permission of department. Advanced studies in Business Spanish, intensive intercultural communication practice in speaking, listening comprehension, reading, writing, and translation in functional business areas such as goods and services, marketing, finance, and import-export.

**LTAM 4302. Caribbean Literature in English. (3)** Cross-listed Course(s): AFRS 4102. Prerequisite(s): Junior or Senior standing and at least one course in AFRS for AFRS majors. Topics include: loneliness, quest for identity, nationalism, protest, and the use of patois.

**LTAM 4309. Introduction to Spanish American Literature. (3)** Cross-listed Course(s): SPAN 4209. Prerequisite(s): SPAN 3201, SPAN 3202, SPAN 3203, or permission of department. Pre- or Corequisite(s): SPAN 3208. Introduction to the literary heritage of Spanish America. Reading and analysis of representative works.

**LTAM 4310. Studies in Spanish American Poetry. (3)** Prerequisite(s): SPAN 4208, SPAN 4209, or permission of department. Studies of colonial, post-independence, twentieth century, and contemporary Spanish American poetry. *May be repeated for credit with change of topic.*

**LTAM 4311. Studies in Spanish American Prose Fiction. (3)** Cross-listed Course(s): SPAN 4211. Prerequisite(s): SPAN 4208, SPAN 4209, or permission of department. Studies of colonial, post-independence, twentieth century, and contemporary Spanish American prose fiction. *May be repeated for credit with change of topic.*

**LTAM 4312. Studies in Spanish American Theater. (3)** Cross-listed Course(s): SPAN 4212. Prerequisite(s): SPAN 4208, SPAN 4209, or permission of department. Studies of colonial, post-independence, twentieth century, and contemporary Spanish American theater. *May be repeated for credit with change of topic.*

**LTAM 4314. Studies in Hispanic Children's Literature. (3)** Cross-listed Course(s): SPAN 4214. Prerequisite(s): SPAN 4208, SPAN 4209, or permission of department. Literary works in Spanish written for children.

**LTAM 4315. Studies in Regional Literature of the Americas. (3)** Cross-listed Course(s): SPAN 4215. Prerequisite(s): SPAN 4208, SPAN 4209, or permission of department. Studies of Mexican, Central American, Caribbean, Andean, Amazonian, or Southern Cone literature. Readings from representative works. Works from non-Spanish-speaking areas read in Spanish translation. *May be repeated for credit with change of topic.*

**LTAM 4316. Social, Political, Cultural, Economic Issues in Hispanic Literature. (3)** Cross-listed Course(s): SPAN 4216. Prerequisite(s): SPAN 4208, SPAN 4209, or permission of department. Contextual issues surrounding Hispanic literature.

**LTAM 4317. Topics in Hispanic Culture and Civilization. (3)** Cross-listed Course(s): SPAN 4217. Prerequisite(s): SPAN 4208, SPAN 4209, or permission of department. Various topics involving the fine arts: music, dance, art, film. *May be repeated for credit with change of topic.* Applicable toward Spanish major or minor only when taught in Spanish.

**LTAM 4318. Cuban Literature. (3)** Cross-listed Course(s): SPAN 4218. Prerequisite(s): SPAN 4208, SPAN 4209, or permission of department. Cuban literary works in Spanish.

**LTAM 4350. Studies in Latin American Literature. (3)** Cross-listed Course(s): SPAN 4050. Prerequisite(s): two 3000 level courses or permission of department. Study of a predetermined topic in Latin American literature. *May be repeated for credit with change of topic.*

**LTAM 4600. Seminar in Latin American Studies. (3)** Prerequisite(s): Advanced Junior or Senior standing. A capstone seminar involving in-depth research and analysis of a topic of common interest to Latin American Studies majors, and the elaboration of a senior writing project. May be taken more than once, in which case the second course will fulfill the capstone requirement.

**LTAM 4700. Senior Honors Thesis. (3-6)** Prerequisite(s): Senior standing, an overall minimum GPA of 3.25; permission of the Coordinator of Latin American Studies; and approval of a proposal through the Honors College Application to Candidacy process the semester prior to taking the course. The preparation and presentation of an acceptable honors thesis.

# Mathematics Education (MAED)

**MAED 3070. Topics in Mathematics Education, Secondary. (1 to 6)** Prerequisite(s): Permission of department. Special topics in mathematics education at the secondary level. *May be repeated for credit with change of topic.*

**MAED 3222. Teaching Mathematics to Elementary School Learners, Grades K-2. (3)** Prerequisite(s): Students must be accepted as Elementary Education majors in the College of Education. This course is designed to help students develop knowledge and understanding of school mathematics and methods for teaching mathematics to children in grades K through 2. The course focuses on the importance of learning through manipulative and concrete experiences and on planning lessons in which students develop their ideas through action and discussion.

**MAED 3224. Teaching Mathematics to Elementary School Learners, Grades 3-6. (3)** Prerequisite(s): MAED 3222. This course is designed to help students develop knowledge and understanding of school mathematics and methods for teaching mathematics to children in Grades 3 through 6. The course includes a focus on planning and developing mathematics lessons and also includes the study of a variety of techniques for assessing student learning.

**MAED 4103. Using Technology to Teach Secondary School Mathematics. (3)** Prerequisite(s): Admission to Teacher Education or permission of department. Technology as a tool for exploring mathematical ideas and representing mathematical concepts, including lab assignments related to using technology throughout the secondary school mathematics curriculum.

**MAED 4105. High School Mathematics from an Advanced Standpoint. (3)** Prerequisite(s): MATH 3163, MATH 3181, at least one STAT course; and Minor in Secondary Education or permission of department. Intended for students working towards a Minor in Secondary Education intending to become high school mathematics teachers. Explores the study of high school mathematics topics from an advanced standpoint. Topics include: functions, geometry and transformations, analytic geometry, complex numbers and trigonometry, and statistics and probability.

**MAED 4232. Teaching Mathematics to Middle School Learners. (3)** Prerequisite(s): Admission to Teacher Education or permission of department. The initial teaching methods course for middle school mathematics teachers. Focuses on middle school mathematics and its relation to the K-12 curriculum. Topics include: the development of teaching strategies and activities in middle school mathematics with an emphasis on problem solving, mathematical connections, communication and assessment, including school-based field experiences.

**MAED 4252. Teaching Mathematics to Secondary School Learners. (3)** Prerequisite(s): Admission to Teacher Education or permission of department; MDSK 3100; MDSK 3151; MDSK 4210; and MDLG 3130 or

SECD 4140. Corequisite(s): MDSK 4100L and MDSK 4102. The initial teaching methods course for secondary school mathematics teachers. Focuses on secondary school mathematics and its relation to the K-12 curriculum. Topics include: the planning and implementation of high quality mathematics lessons with an emphasis on problem solving, mathematical connections, and communication, including school-based field experiences.

# Mathematics (MATH)

**MATH 0900. Math Study Skills and Algebra Review. (1)** Prepares students to be successful in college algebra or precalculus. Topics include: a review of elementary algebra, exponents and radicals, polynomial and rational functions, equations, and inequalities. Study skills needed to be successful in mathematics are an important part of this course. Placement in this course is based on an appropriate eligibility level of math placement and is restricted to students who do not have college-level math credit.

**MATH 1100. College Algebra. (3)** Prerequisite(s): Math Placement Level 2 or MATH 0900. The basic mathematics course about the fundamental concepts of algebra for undergraduates whose majors require College Algebra, Pre-Calculus, or Calculus. Topics include: polynomial, exponential, and logarithmic functions and their graphs. Students who have already received credit for MATH 1103 or higher with grade of C or above may not receive credit for taking MATH 1100 or MATH 1101.

**MATH 1101. College Algebra with Workshop. (4)** Explores topics that are necessary for success in Pre-Calculus or Calculus courses. Topics include: functions and their graphs; composition and inverses; exponential, logarithmic, and polynomial functions. May not be taken for credit and for a grade if credit has been received for MATH 1100. Students who have already received credit for MATH 1103 or above will not receive credit for taking MATH 1101.

**MATH 1102. Introduction to Mathematical Thinking. (3)** Prerequisite(s): Either No Math Placement Level or Math Placement Level 1. An introduction to mathematical ideas designed primarily for non-science students. Topics are drawn from various branches of mathematics which may include algebra, geometry, number theory, probability, statistics and graph theory. This course is for students who are not majoring in programs that require College Algebra, Pre-Calculus, or Calculus.

**MATH 1103. Precalculus Mathematics for Science and Engineering. (3 to 5)** Prerequisite(s): Math Placement Level 3 or MATH 1100 or MATH 1101. Intended for students who plan to take MATH 1241. Review of polynomial and rational functions, properties of functions, composite, and inverse functions. The study of polynomial and rational inequalities, reciprocal functions, trigonometric functions and their graphs, identities and equations, the law of sines and cosines. A brief introduction of limits of functions through their graphs. Students who have already received credit for MATH 1121 or higher with grade of C or above will not receive credit for taking MATH 1103.

**MATH 1103L. The Academic Success Experience. (1)** Prerequisite(s): Permission of the course instructor or department. Co-requisite Course(s): MATH 1103. This corequisite companion course is designed for students enrolled in a foundational gateway course. It provides targeted academic support, a smaller peer learning community, and mentorship to help students strengthen their understanding of course content and develop skills for long-term academic success.

**MATH 1105. Finite Mathematics. (3)** Review of high school algebra, elementary matrix algebra, systems of linear equations and inequalities, elementary linear programming; probability.

**MATH 1120. Calculus. (3)** Prerequisite(s): MATH Placement Level 3 or MATH 1100 or MATH 1101 or MATH 1103. Intended for students majoring in fields other than engineering, mathematics or science. Elements of differential and integral calculus for polynomial, rational, exponential, logarithmic functions, with applications to business and the social and life sciences. Students who have already received credit for MATH 1121 or higher will not receive credit for taking MATH 1120.

**MATH 1121. Calculus for Engineering Technology. (3)** Prerequisite(s): Math Placement Level 4 or a score of at least 23 on the Math portion of the ACT or MATH 1103 with grade of C or above. Intended for students majoring in Engineering Technology or Construction Management. Technical problem solutions utilizing analytical geometry and differential calculus. Topics include: limits, differentiation, curvilinear motion, related rates, optimization problems, and transcendental functions. Students who have already received credit for MATH 1120, MATH 1241, or higher will not receive credit for taking MATH 1121.

**MATH 1241. Calculus I. (3)** Prerequisite(s): Math Placement Level 4 or MATH 1103 with a grade of C or better. Designed for students majoring in Mathematics, Science, or Engineering. Elementary functions, derivatives and their applications, introduction to definite integrals.

**MATH 1241L. The Academic Success Experience. (1)** Prerequisite(s): Permission of the course instructor or department. Co-requisite Course(s): MATH 1241. This corequisite companion course is designed for students enrolled in a foundational gateway course. It provides targeted academic support, a smaller peer learning community, and mentorship to help students strengthen their understanding of course content and develop skills for long-term academic success.

**MATH 1242. Calculus II. (3)** Prerequisite(s): MATH 1241 with grade of C or above. Methods for evaluating definite integrals, applications of integration, improper integrals, infinite series, Taylor series, power series, and introduction to differential equations.

**MATH 1340. Mathematics for Elementary Teachers I. (3)** Prerequisite(s): Enrollment in one of the following majors: Pre-Elementary Education, Elementary Education, Pre-Special Education. Math Level 2 or permission of department Develops elementary teachers' understanding of essential concepts related to the base-ten number system and operations. Students reconceptualize their understanding of the base-ten number system, including natural numbers, whole numbers, integers, fractions, decimals, and percents. Students also reconceptualize operations within these systems and their properties. Students also develop their understanding of number theory concepts, including prime factorization, greatest common factor, and least common multiple. The content will be taught through a problem-solving approach.

**MATH 1341. Mathematics for Elementary Teachers II. (3)** Prerequisite(s): MATH 1340; Must be enrolled in one of the following majors: Pre-Elementary Education, Elementary Education, Pre-Special Education. Develops elementary teachers' understanding of four fundamental, interrelated concepts in elementary mathematics: geometry, measurement and data, ratios and proportions, and algebraic reasoning. Students use proportional reasoning to solve problems involving ratios, compare ratios, interpret unit rates, and solve problems involving percentages. Students understand how algebraic reasoning develops in the elementary grades through sequences and pattern recognition followed by the development of expressions and equations. Students re-conceptualize definitions and properties of polygons and polyhedral including the concepts of perimeter, area, surface area, volume, transformation, and congruence and similarity. Students develop their understanding of the organization, representation, and analysis of data along with measures of central tendency and variation. The content will be taught through a problem-solving approach.

**MATH 2112. Mathematics for Computer Science. (3)** Prerequisite(s): MATH 1241 with grade of C or above, and ITSC 1212; Majors or Minors in the College of Computing and Informatics. An overview of linear algebra and probability topics for computer science. Systems of linear equations, vector and matrix operations, eigenvalues and eigenvectors, orthogonality, introduction to probability of events, discrete and continuous random variables and their distributions, and hypothesis testing. This course emphasizes the understanding of concepts through computational implementation of algorithms. May not be taken for credit if credit has been received for both MATH 2164 and STAT 2122.

**MATH 2120. Intermediate Applied Calculus. (3)** Prerequisite(s): MATH 1120 or MATH 1241. Introduction to the calculus of functions of several variables, trigonometric functions, techniques of integration of functions of one variable, differential equations, and Taylor polynomials and infinite series. May not be taken for credit and for a grade if credit has been received for MATH 1242.

**MATH 2164. Matrices and Linear Algebra. (3)** Prerequisite(s): MATH 1120 or MATH 1241 with grade of C or above; or permission of department. Matrix algebra, systems of linear equations, vector spaces, linear transformations, determinants, inner products, eigenvalues.

**MATH 2165. Introduction to Discrete Structures. (3)** Prerequisite(s): ECGR 2103 or ENGR 1302 or ITSC 1212; and MATH 1241. Propositions and truth tables, sets, permutations and combinations, relations and functions, lattices, and trees.

**MATH 2167. Introduction to Mathematical Reasoning. (3)** Prerequisite(s): MATH 1242 or MATH 2120; Department of Mathematics and Statistics majors or minors, or permission of department. Pre- or Corequisite(s): MATH 2164. Focuses on the fundamentals of logical reasoning and mathematical proof-writing. Students will learn what a proof is in mathematics, how to analyze a proof for validity, and have practice writing their simple proofs. Students will also be exposed to mathematical programs, such as LaTex, and learn how to typeset their proofs. Topics covered include symbolic logic (such as truth tables & quantifiers), types of proof-writing (such as direct proofs, proofs by contrapositive, proofs by contradiction, counter-examples, and mathematical induction), and other basic concepts from set theory, relations, and functions (such as bijections).

**MATH 2171. Differential Equations. (3)** Prerequisite(s): MATH 1242 with grade of C or above. An introduction to ordinary differential equations including first order equations, general theory of linear equations, series solutions, special solutions, special equations such as Bessel's equation, and applications to physical and geometric problems.

**MATH 2241. Calculus III. (3)** Prerequisite(s): MATH 1242 with grade of C or above. Functions of two or more variables, vectors in two and three dimensions, partial derivatives, optimization, double and triple integrals and their applications.

**MATH 2242. Calculus IV. (3)** Prerequisite(s): MATH 2241 with grade of C or above. Parametric curves and surfaces, vector fields, line and surface integrals; Green's theorem, Divergence theorem, Stoke's theorem and applications. Fourier series and its applications.

**MATH 2340. Number Concepts and Relationships. (3)** Prerequisite(s): MATH 1100 or MATH 1101 or MATH 1103 with grade of C or above or permission of department. A study of integers, rationals, and real numbers; conjectures and intuitive proofs in a number theory; number sequences, patterns, functions; algebraic concepts and skills. An emphasis on the development of problem-solving strategies and abilities. (May not be taken for the major or minor).

**MATH 2341. Algebra and Algebraic Structures. (3)** Prerequisite(s): MATH 2340 with grade of C or above or MATH 2102 with grade of C or above or permission of department. A study of functions and their properties arising from a variety of problem situations. Representations of real-world relationships with physical models, charts, graphs, equations, and inequalities. Properties of real and complex numbers. Concrete examples of algebraic structures such as groups, rings, fields, and vector spaces.

**MATH 2342. Data Analysis and Probability. (3)** Prerequisite(s): STAT 1220 or STAT 1222 with grade of C or above or permission of department. Introduction to the statistical process. Collection of data from experiments and surveys; organizing, representing, and interpreting data; formulating arguments based on analysis. Plan and conduct experiments and simulations to determine experimental probabilities. Develop counting techniques and other methods to determine probabilities. (May not be taken for the major or minor).

**MATH 2343. Geometry and Measurement. (3)** Prerequisite(s): MATH 1100 or MATH 1101 or MATH 1103 with a grade of C or above or permission of department. A study of properties and relationships of shape, size, and symmetry in two and three dimensions. Explore concepts of motion in two and three dimensions through transformations. Present written and oral arguments to justify conjectures and generalizations. Become familiar with the historical development of Euclidean geometry. (May not be taken for the major or minor).

**MATH 2688. Mathematics Awareness Seminar. (1)** Prerequisite(s): Sophomore or Junior standing. This seminar focuses on the different areas of study and career opportunities within the mathematics, statistics, and mathematics education fields. Discussions in class and with visiting speakers include topics of internships, cooperative education, and job opportunities while still in school as well as after graduation discussions about career opportunities, resumes, cover letters, and strategies on interviewing with companies. There are

also discussions about graduate school, the best fit graduate school based upon a student's interests, how to apply, and GRE and GMAT possible requirements. *Recommended to be taken during the Sophomore year.*

**MATH 3050. Selected Topics in Mathematics. (2-3)** Prerequisite(s): Permission of department. Topics selected to supplement regular offerings at the 3000 level in mathematics or statistics. *May be repeated for credit with permission of department.*

**MATH 3116. Graph Theory. (3)** Prerequisite(s): with grade of C, and either MATH 2165 or MATH 2167. Graphs as mathematical models. Planarity, colorability, connectivity, trees. Applications and algorithms for networks, matching problems and areas of computer science.

**MATH 3122. Probability and Statistics I. (3)** Cross-listed Course(s): STAT 3122. Prerequisite(s): MATH 2241 with grade of C or above. Sample spaces, random variables, moment generating functions, some standard distributions, multivariate distributions, laws of large numbers, limit theorems. *Credit may not be given for MATH 3122 when credit has been given for STAT 3122 or STAT 3128.*

**MATH 3123. Probability and Statistics II. (3)** Cross-listed Course(s): STAT 3123. Prerequisite(s): MATH 3122 or STAT 3122. An introduction to statistical inference. Topics include: point estimation (method of moments, method of maximum likelihood, unbiased estimators, efficiency, consistency); confidence intervals and hypothesis tests for unknown parameters, including proportions, means, variances, and differences between means; tests of significance; the power function; goodness-of-fit.

**MATH 3141. Advanced Calculus of One Variable. (3)** Prerequisite(s): MATH 2241 with grade of C and MATH 2167. Topology of the real line; continuity, uniform continuity, differentiability, integration, sequences and series of functions.

**MATH 3142. Advanced Calculus of Several Variables. (3)** Prerequisite(s): MATH 3141. Continuity and differentiability of functions of several variables, inverse and implicit function theorems, integration, Fubini's theorem, change of variables, the classical integral theorems of Gauss, Green and Stokes and their generalizations.

**MATH 3146. Introduction to Complex Analysis. (3)** Prerequisite(s): MATH 2241 with grade of C and MATH 2167. Analytic functions, complex integration, calculus of residues, conformal mapping.

**MATH 3163. Introduction to Modern Algebra. (3)** Prerequisite(s): MATH 2164 with grade of C and MATH 2167. Examples and elementary properties of basic algebraic structures, especially groups. The course emphasizes the writing of proofs of elementary theorems.

**MATH 3166. Combinatorics. (3)** Prerequisite(s): MATH 2164 with grade of C, and either MATH 2165 or MATH 2167. Combinatorial modeling, generating functions, recurrence relations, inclusion-exclusion principle and problems from recreational mathematics.

**MATH 3171. Applied Mathematics. (3)** Prerequisite(s): MATH 2241 and MATH 2171 with grades of C or above. Separation of variables techniques for the classical partial differential equations of mathematical physics; Fourier series; Sturm-Liouville theory.

**MATH 3176. Numerical Analysis. (3)** Prerequisite(s): ITSC 1212 and MATH 2241. Introduction to fundamental mathematical theory and algorithms in computational math and AI foundation. The topics will include numerical methods for solving nonlinear equations; fixed point theorems and error analysis of iterative methods; function approximation theories; computational schemes and convergence analysis of numerical differentiation/integration.

**MATH 3180. Predictive Analytics. (3)** Prerequisite(s): MATH 1242, and STAT 2122 or higher. Cross-listed Course(s): STAT 3180. Predictive modeling skills used in pricing and risk classification algorithms in the R programming language. Students learn how to perform exploratory data analysis using the data visualization tools in Base R and the GGPlot graphical l package. Students will learn how to apply Generalized Linear Modeling (GLM) techniques based on Gaussian, Binomial, Poisson, and Gamma families of distributions. Students will learn data analysis and model validation techniques to assess modeling data quality and statistical model fit.

**MATH 3181. Fundamental Concepts of Geometry. (3)** Prerequisite(s): MATH 2164 with grade of C or above. Foundations of geometry, transformations, comparison of Euclidean and non-Euclidean geometries.

**MATH 3227. Mathematical Theory of Interest and Applications. (3)** Prerequisite(s): MATH 1242 or MATH 2120. The measurement of interest rates, equations of value, time value of money, basic and more general annuities, NPV and yield rates, loans and amortization schedules.

**MATH 3228. Financial Mathematics and General Cash Flows. (3)** Pre- or Corequisite(s): MATH 3227. Topics include: interest rates, yield curves, loans, bonds, portfolios, duration, convexity, immunization strategies, and applications.

**MATH 3500. Mathematics Cooperative Education Experience. (0)** Prerequisite(s): Good standing with the University, completion of 30 credit hours at UNC Charlotte (transfer students are required to complete 12 credit hours), and permission of Department of Mathematics and Statistics. Students are employed in a manner that afford them the opportunity of using and enhancing mathematical knowledge and skills through practical experience of co-op rotation. Participating students pay a course registration fee for transcript notation. Assignments must be arranged and approved in advance. After completing MATH 3500, co-op students must take MATH 3652. The Cooperative Education Program is only open to undergraduate students; graduate level students are encouraged to contact their academic departments to inquire about academic or industrial internship options for credit. For more information, contact the University Career Center. *Course may be repeated. Graded on a Satisfactory/Unsatisfactory basis.*

**MATH 3652. Mathematics Cooperative Education Seminar. (1)** Prerequisite(s): MATH 3500. Students give an exposition of their work experience in MATH 3500. An exposition of underlying theoretical concepts and related ideas may also be required.

**MATH 3689. Mathematics Senior Project Seminar. (3)** Prerequisite(s): MATH 2167; Senior standing; At least 6 credits in 3xxx or 4xxx level MATH, STAT, or OPRS courses. Individual project in an area of mathematics or statistics under the direction of a faculty member.

Students analyze or create mathematical results and arguments, and present the project in writing.

**MATH 3691. Mathematics Seminar. (1 to 6)** Prerequisite(s): Permission of department. Group investigation and exposition of topics in mathematics and mathematics education. *May be repeated for credit.*

**MATH 3790. Junior Honors Seminar. (3)** Prerequisite(s): Permission of department. A seminar course for Junior Honors students. *May be repeated for credit one time with permission of department.*

**MATH 3791. Senior Honors Tutorial. (3)** Prerequisite(s): Permission of department and approval of a proposal through the Honors College Application to Candidacy process the semester prior to taking the course. Individual tutorials in which students pursue independent study and research in any area of mathematics under the direction of one or more faculty members. The projects of students are planned to culminate in a research paper of original or expository nature. *May be repeated for credit with permission of department.*

**MATH 3800. Directed Individual Study in Mathematics. (1 to 3)** Prerequisite(s): MATH 1242 with grade of C or above; and permission from the department and credit hours established in advance. Supervised individual investigation of a topic in mathematics. Students must request permission for independent study from an individual faculty member. *May be repeated for credit with change of topic.*

**MATH 4040. Topics in Analysis. (2-3)** Prerequisite(s): Permission of department. Topics in analysis selected to supplement regular course offerings in this area of mathematics. *May be repeated for credit with permission of department.* Credit for the M.A. degree in Mathematics requires approval of the department.

**MATH 4051. Computer Exploration and Generation of Data. (3)** Prerequisite(s): MATH 2120 or MATH 2241; and STAT 1220 or 2122 or STAT 3123; and STAT 2223 or STAT 3110. This is a project course. Grades are based on four to five projects that utilize spreadsheet technology. Includes an introduction to a major spreadsheet, such as Excel. Assigned projects may be selected from a range of topics that include: Data Analysis and Exploration; Dynamical Models and Difference Equations (Epidemics, Harvesting Models, Population Dynamics, Predator-Prey Models); Physical Models (projectile motion, including air resistance, orbits of celestial bodies, heat propagation); Combinatorics and Probability (birthday problem, genetics, simulation of distributions); Optimization (inventory control, apportionment algorithms); Financial Mathematics (Stock Price Simulation, Pricing of Derivatives); Business Simulations (Net Present Value Comparisons and Risk Evaluation, Sensitivity Analyses). Completed projects must include written descriptions, explanation, and evaluation along with appropriate working spreadsheets that accomplish the assigned objectives.

**MATH 4080. Topics in Geometry and Topology. (3)** Prerequisite(s): Permission of department. Topics in geometry or topology selected to supplement regular course offerings in this area of mathematics. *May be repeated for credit with permission of department.* Credit for M.A. degree in Mathematics requires approval of the department.

**MATH 4109. History of Mathematical Thought. (3)** Prerequisite(s): MATH 1241 or permission of department. A study of the development of mathematics in its historical setting from the earliest beginnings to modern times.

**MATH 4122. Probability and Stochastic Models. (3)** Prerequisite(s): MATH 3122 or STAT 3122. Topics include: a brief review of probability, including joint and conditional distributions; Markov Chains; Poisson process with applications to actuarial science and replacement models; and binomial model of option pricing.

**MATH 4128. Risk Theory. (3)** Prerequisite(s): MATH 3122 or STAT 3122. Topics include: modeling risk with Value-at-Risk (VaR) and related quantities; statistical estimation of VaR; back testing; risk management; forecasting risk and volatility modeling with GARCH; and Monte Carlo methods.

**MATH 4161. Number Theory. (3)** Prerequisite(s): MATH 3163 with grade of C or above or permission of department. A study of the elements of classical number theory including divisibility, congruences, diophantine equations, prime numbers and their distribution, quadratic reciprocity, number-theoretic functions, and famous unsolved problems. Not approved for the M.A. in mathematics degree.

**MATH 4163. Modern Algebra. (3)** Prerequisite(s): MATH 3163 or permission of department. Groups, rings, integral domains, and fields.

**MATH 4164. Abstract Linear Algebra. (3)** Prerequisite(s): MATH 3163. Vector spaces over arbitrary fields, linear transformations, diagonalization, inner product spaces, and canonical forms.

**MATH 4165. Numerical Linear Algebra. (3)** Prerequisite(s): ITSC 1212 and MATH 2164; Junior or Senior standing. Cross-listed Course(s): MATH 5165. Matrix norms and condition numbers. Direct methods for linear systems and their accuracy and stability. Iterative methods for large sparse linear systems and their convergence. Least squares methods for non-square linear systems. Matrix Decompositions (LU and Cholesky Decompositions, Rank Decomposition, QR decomposition; Eigendecomposition and Diagonalization, Singular Value Decomposition). Efficient matrix multiplication methods. Matrix approximations. Matrix phylogeny. Examples of numerical linear algebra in machine learning.

**MATH 4175. Mathematical Foundations of Optimization. (3)** Prerequisite(s): ITSC 1212, MATH 2164, and MATH 2241. Cross-listed Course(s): MATH 5175. Introduces the mathematical foundation of optimization problems. The covered topics include basic elements of optimization theory and focus on unconstrained and constrained nonlinear optimization. Both mathematical analysis and coding skill training will be offered in this course.

**MATH 4181. Introduction to Topology. (3)** Prerequisite(s): MATH 2164 with grade of C and MATH 2167. Topics from set theory and point set topology such as cardinality, order, topological spaces, metric spaces, separation axioms, compactness and connectedness.

**MATH 4228. Life Insurance Mathematics. (3)** Cross-Listed Course(s): MATH 5228. Prerequisite(s): MATH 3122 or STAT 3122; and MATH 3228; or permission of department. Introduction to long-term insurance; survival distribution models, estimating mortality rates, long-term insurance coverages, annuities, premiums, and reserves.

**MATH 4229. Advanced Life Insurance Mathematics. (3)** Cross-Listed Course(s): MATH 5229. Prerequisite(s): MATH 4228 with grade of C or above, or permission of the department. Advanced Long-Term Insurance; multiple state mortality - Markov Chains, multiple decrements probabilities and insurance, multiple lives probabilities and insurance, pension plans and retirement benefits, profit testing.

**MATH 4691. Seminar I in Mathematics and Statistics. (1 to 3)** Cross-listed Course(s): MATH 5691. Prerequisite(s): Permission of department. Individual or group investigation and exposition of selected topics in mathematics. *Graded on a Pass/No Credit basis. May be repeated for credit with change of topic.*

**MATH 4692. Seminar II in Mathematics and Statistics. (1 to 3)** Cross-listed Course(s): MATH 5692. Prerequisite(s): Permission of department. A continuation of MATH 4691. *Graded on a Pass/No Credit basis. May be repeated for credit with change of topic.*

# Modern Greek (MDGK)

**MDGK 1201. Elementary Modern Greek I. (4)** Fundamentals of the Modern Greek language, including speaking, listening comprehension, reading, and writing.

**MDGK 1202. Elementary Modern Greek II. (4)** Prerequisite(s): MDGK 1201 or permission of department. Fundamentals of the Modern Greek language, including speaking, listening comprehension, reading, and writing.

# Middle Grades Education (MDLG)

**MDLG 3130. The Early Adolescent Learner. (3)** Prerequisite(s): Admission to Teacher Education. Physical, sexual, social, cognitive, and emotional development in the 10- to 15-year-old with emphasis on how these developmental diversities affect the middle grades classroom. Includes 30 hours of clinical field experiences.

**MDLG 3131. The Philosophy and Curriculum of Middle Grades Education. (3)** Prerequisite(s): MDLG 3130, MDSK 3100, MDSK 3151, and MDSK 4210. Overview of education in the middle grades (6-9) with emphasis on the foundational components, organizational patterns, instructional programs, and integrated curriculum unique to the middle school. Includes 30 hours of field experiences.

**MDLG 3800. Individual Study in Middle Grades Education. (1 to 3)** Prerequisite(s): Permission of the student's advisor. Independent study under the supervision of an appropriate faculty member. *May be repeated for credit.*

**MDLG 4440. Student Teaching/Seminar: 6-9 Middle Grades Education. (15)** Prerequisite(s): Completion of all coursework, and departmental approval of an application for Student Teaching. Student teaching is a planned sequence of experiences in the student's area of specialization conducted in an approved school setting under the supervision and coordination of a university supervisor and a clinical educator. During student teaching, the student must demonstrate the competencies identified for their specific teaching field in an appropriate grade level setting. The student is assigned 15 weeks in a school setting. Includes seminars. Participating students pay a course registration fee for edTPA portfolio assessment. *Graded on a Pass/No Credit basis.*

# Middle, Secondary, and K-12 Education (MDSK)

**MDSK 2100. Foundations of Education in Secondary Schools. (3)** An introduction to the field of education and teaching at the high school level. Provides students with an introduction to education including social, historical, and philosophical foundations and also examines current organizational structures of schools, school reforms issues, and the roles and responsibilities of high school teachers. In addition to the course, a minimum of 12 hours of clinical observation at a high school is required. This course serves as the prerequisite for students seeking the Minor in Secondary Education.

**MDSK 3100. The Connected Classroom. (3)** Teacher education candidates analyze the complex ecology of the modern classroom in order to create a learning environment that establishes and connects student success and well-being. The course shares research-based strategies to address the academic and emotional needs of students from a variety of backgrounds. Additionally, the course introduces issues, policies, and strategies for modifying standard instruction for students with disabilities and those identified as gifted.

**MDSK 3151. Instructional Design and Technology Integration. (3)** Introduction to the systematic process of planning for effective instruction, assessment, technology integration, and classroom leadership. Clinical experience required.

**MDSK 3252. Differentiating Instruction for Adolescent Learners. (3)** Prerequisite(s): MDSK 3151. This course prepares candidates to analyze and evaluate differentiated instructional strategies. Candidates will also apply their understanding of differentiated instruction by developing lesson plans that are responsive to student readiness, interest, and learning profile.

**MDSK 4101. Assessment of Middle Grades and Secondary School Learners in Science. (2)** Cross-listed Course(s): MDSK 5101. Prerequisite(s): MDSK 3100, MDSK 3151, and MDSK 4210. Pre- or Corequisite(s): MDSK 4100L and MDSK 4251. For current and future teachers of middle grades and secondary schools to develop multiple criteria assessment models and to master other competencies prescribed by the State of North Carolina. Provides a foundation in the understanding of authentic assessment and its application in middle and secondary school science classrooms.

**MDSK 4102. Assessment of Secondary School Learners in Mathematics. (2)** Cross-listed Course(s): MDSK 5102. Prerequisite(s): MDSK 3100; MDSK 3151; MDSK 4210; and MDLG 3130 or SECD 4140. Pre- or Corequisite(s): MAED 4252 and MDSK 4100L. Designed to foster Secondary Mathematics Education teacher candidates' knowledge of and skills for creating and implementing equitable assessments in K-12 classrooms. Learning modules provide an overview of the major principles involved in mathematics assessment, focusing on both theoretical and practical issues. Students practice creating/adapting,

administering, and/or scoring both formative and summative assessments. Students take into account issues of equity and cultural relevance in this work. They also practice analyzing data from such assessments, making instructional decisions based on those data, and providing student feedback.

**MDSK 4103. Assessment in Teaching Middle and Secondary Social Studies. (2)** Cross-listed Course(s): MDSK 5103. Prerequisite(s): MDSK 3100; MDSK 3151; MDSK 4210; and MDLG 3130 or SECD 4140. Pre- or Corequisite(s): MDSK 4100L and MDSK 4253. Prepares middle and secondary social studies teachers to plan and implement formal and informal assessments. Encompasses both authentic assessment and more traditional evaluation forms.

**MDSK 4104. Assessment in Teaching K-12 English. (2)** Cross-listed Course(s): MDSK 5104. Prerequisite(s): MDSK 3100; MDSK 3151; MDSK 4210; MDLG 3130 or SECD 4140; and permission of department. Corequisite(s): ENGL 4254 and MDSK 4100L. Supports current and future English Language Arts teachers as they critically analyze and develop appropriate and diverse assessments for learners. Approaches assessment as a method to support students' literacy development, with particular attention to the ways that assessment should align with and extend students' cultural and learning differences. Examines the alignment across standards and assessment methods and supports students in understanding the ways that assessment data can be analyzed and used to inform future teaching and lesson planning. Students consider how they can engage learners in the assessment process to encourage learners to take responsibility for and ownership over their own learning.

**MDSK 4150. Assessment, Reflection, and Management Practices. (3)** Corequisite(s): For Middle Grades major - : MDLG 4440; For Secondary Education minor - SECD 4451, SECD 4452, SECD 4453, or SECD 4454. In addition to receiving edTPA support, teacher candidates are familiarized with concepts, methods, and practices used by effective teachers in their daily classroom routine, including assessment, reflection, classroom and behavior management. Course may be taught on site at a Professional Development School. Includes 30 hours of field experiences.

**MDSK 4210. Classroom Leadership. (2)** Prerequisite(s): Middle Grades Education major or Secondary Education minor. Emphasizes strategies and forms of classroom management and leadership that establish positive, productive, and equitable classroom environments for middle grades and secondary students. Consists of a clinical site visit to a local school.

**MDSK 4251. Teaching Science to Middle and Secondary School Learners. (3)** Cross-listed Course(s): MDSK 5251. Prerequisite(s): MDSK 3100; MDSK 3151; MDSK 4210; and MDLG 3130 OR SECD 4140. Corequisite(s): MDSK 4100L. Should be taken semester prior to student teaching. Preparation to teach science at the middle and secondary school levels with emphasis on a holistic, interdisciplinary understanding of science; science as related to everyday life and society; and interdisciplinary aspects of science. Includes 30 hours of field experiences.

**MDSK 4253. Teaching Social Studies to Middle and Secondary School Learners. (3) (SL)** Cross-listed Course(s): MDSK 5253. Prerequisite(s): MDSK 3100; MDSK 3151; MDSK 4210; and MDLG 3130 OR SECD 4140. Corequisite(s): MDSK 4100L. Should be taken semester prior to student teaching. A methods course for teaching social studies at the middle and secondary school levels. Emphasis on using social science content to develop effective teaching strategies, instructional plans, and classroom materials for teaching social studies to middle and secondary school students. Includes 30 hours of field experiences.

**MDSK 4300. Content Area Instruction and Assessment. (3)** Cross-listed Course(s): MDSK 5300. Prerequisite(s): MDSK 3151. Prepares candidates to plan and implement formal and informal assessments. Learning modules provide opportunities to learn the major principles of various types of assessments; evaluate assessments for curriculum alignment and learning; evaluate assessments for bias; and develop and implement assessment in order to interpret K-12 content knowledge and provide student feedback and make future instructional decisions. This course also provides exposure to the continued modeling of evidence-validated practices, the rehearsal of instructional tasks, and numerous opportunities for feedback on pedagogical decision-making within the content area. *May be repeated for credit one time.*

## Mechanical Engineering Technology (MEET)

**MEET 2100. Project Design and Management. (3)** Prerequisite(s): ENGR 1300 with grade of C or better. Failure to plan is a plan to fail. Successful products and projects come from proper prior planning. Within this course, students will get to learn the concepts, frameworks, and tools important to project management. Topics include project planning, risk assessment, scope definition, and interpersonal skills with stakeholders.

**MEET 2201. Applied Engineering Materials. (3)** Prerequisite(s): ETGR 1101 with grade of C or better or ETGR 1201 with grade of C or better or ENGR 1301 with grade of C or better. An introduction to structure, properties, and applications of metallic, plastic, ceramic and composite materials. Material treatments and testing of properties will also be discussed.

**MEET 2202. Applied Manufacturing. (3)** Prerequisite(s): ETME 2141 or MEET 2201. A survey of manufacturing process families which include casting material removal, deformation processes, consolidation processes, and additive processes.

**MEET 2203. Manufacturing Laboratory. (1)** Prerequisite(s): Engineering Technology Major or Minor and sophomore standing. Machining is an established manufacturing process that still drives innovations in companies around the world. In this course students will get hands-on experience with machining equipment to better their understanding of manufacturing processes. Topics include but are not limited to laboratory safety, milling machine use, grinding, lathe use, product design, and measurement.

**MEET 2211. CAD Fundamentals. (3)** Prerequisite(s): ENGR 1303 with grade of C or better. Instructs in the fundamentals of Computer Aided Design (CAD) for mechanical parts and assemblies. The CAD user interface is introduced to facilitate the process of creating 3D models of parts and assemblies. An introduction to drawings is presented to enable creation of drawing documentation appropriate for industry standards.

**MEET 2221. Circuit Fundamentals. (3)** Prerequisite(s): MATH 1103 or higher with grade of C or better. In this foundation course, students will learn the principles of DC and AC circuits. Topics of study include basic components, laws, and methods used in circuit analysis. Concepts of DC and AC voltage, current and power will be explored. Students will be instructed on the correct and safe use of equipment and computer tools used in circuits testing and troubleshooting.

**MEET 2222. Instrumentation and Measurements. (3)** Prerequisite(s): ETEL 2101 or ETEM 2101 or MEET 2221 and ENGR 1302 with grade of C or better. An introduction to measurements and instrumentation of physical variables in manufacturing processes or mechanical systems. Physical phenomena to be measured include: geometrical dimensions, force, position, velocity, acceleration, torque, object distance, temperature and strain. The course will cover measurement principles, sensor selection, design and implementation, data acquisition and statistical analysis of acquired data.

**MEET 2301. Statics. (3)** Prerequisite(s): MATH 1103 or higher. Fundamentals and applications of statics to include the analysis of force systems using analytical and graphical methods. Included topics are systems of forces, friction, equilibrium of particles and rigid bodies, distributed force systems, centroids and moments of inertia, and introduction to analysis of structures. In addition, stress, deformation, and strain are presented.

**MEET 2302. Kinematics. (3)** Prerequisite(s): ETME 2111 with grade of C or better or MEET 2211 with grade of C or better and MATH 1241 with grade of C or better and PHYS 2101 with grade of C or better. This course explores the geometric relationship of rigid bodies in motion. Motion within a mechanical system must be analyzed in order to accomplish the intent of the desired motion. This course instructs in the method of analysis of mechanical components and the mechanical synthesis to achieve a desired motion.

**MEET 2600. Professional Development Seminar for Engineering Technologists. (1)** Prerequisite(s): Engineering/Engineering Tech majors. Becoming a professional is hard. Navigating the industry and finding a job can be even harder. This course is designed to improve students' soft skills and introduce them to the basic concepts of professionalism in engineering to make them real world ready. Topics include self-branding, professional etiquette, career preparation, entrepreneurship, ethics, cultural diversity, and professional licensure.

**MEET 3100. Junior Design Practicum. (3)** Prerequisite(s): ETME 2200 or MEET 2100 and ETME 2290 or MEET 2203. A Junior-level design studio focused on a more complex, but still completely defined design challenge. Projects are completed in teams and introduce students to group project dynamics, advanced machine shop techniques, data acquisition, and analysis. Also reinforces topics learned in previous courses such as the design process, project management, formal report style writing, math modeling (Excel, MATLAB, MathCad, or EES), documentation generation (e.g. drawings, procedures), final project demonstrations, and analytical modeling.

**MEET 3211. Advanced CAD Modeling. (3)** Prerequisite(s): ETME 1112 with grade of C or better or ETME 2111 with grade of C or better or MEET 2211 with grade of C or better. Instructs in the advanced features of Computer Aided Design (CAD) for mechanical parts and assemblies. Advanced features include: part and assembly modeling of complex parts, multi-bodied parts, surfacing, molded parts, analysis of sustainability and costing, tolerance analyst, and collaboration tools.

**MEET 3301. Strength of Materials. (3)** Prerequisite(s): ETGR 2101 with grade of C or better or MEET 2301 with grade of C or better; and Engineering major or minor. Stress-strain relationships resulting from direct loads, torsional loads and bending loads, and the results obtained from applying more than one of these loads simultaneously. Beam deflection and column loading.

**MEET 3301L. Stress Analysis Laboratory. (1)** Prerequisite(s): Engineering major or minor. Pre- or Corequisite(s): ENGL 2116 and ETME 3123 or MEET 3301. Experiments illustrating stress-strain relationships in engineering materials and the use of brittle coating, photoelasticity and electrical-resistance strain gages.

**MEET 3302. Kinetics. (3)** Prerequisite(s): ETGR 2101 with grade of C or better or MEET 2301 with grade of C or better and MEET 2302. Pre- or Corequisite(s): ETGR 2272 with grade of C or better or MATH 1242 with grade of C or better. This course explores the relationship between the forces acting on a body of mass and the motion of the body. Apply kinetic principles to analyze forces and motion.

**MEET 3250. Fluid Mechanics. (3)** Prerequisite(s): ETGR 2101 with grade of C or better or ETME 2101 with grade of C or better or MEET 2301 with grade of C or better, and Engineering Technology major or minor. Pre- or Corequisite(s): MATH 1121 with grade of C or better or MATH 1241 with grade of C or better. Fundamental principles of fluid mechanics. Topics include: manometry, buoyancy, forces on submerged bodies, boundary layers, flow over surfaces, Bernoulli's equation with applications, orifices, pipe losses, and an introduction to hydrodynamics.

**MEET 3251. Principles of Thermal Engineering. (3)** Prerequisite(s): ETME 3133 or MEET 3250. Pre- or Corequisite(s): ETGR 2272 with grade of C or better or MATH 1242 with grade of C or better. The first law of thermodynamics, including work and heat, as well as thermodynamic properties and devices. The course covers steady state and transient conduction, forced and natural convection.

**MEET 3303. Machine Design I. (3)** Prerequisite(s): ETME 2102 or MEET 2302 and ETME 2130 or ETME 2141 or MEET 2201 and ETME 3123 or MEET 3301; and Engineering major or minor. Analysis and design of clutches, brakes, belts and roller chain. Indeterminate normal loading, superposition of stresses and deflections, compound stresses, columns, and fatigue. Theories of failure. Shaft design, deflections of shafts with non-uniform moments of inertia involving computer verification. Antifriction bearings, engineering materials, helical compression springs. Small mechanical component and system designs.

**MEET 4000. Special Topics in Mechanical Engineering Technology. (3)** Prerequisite(s): Engineering major or minor, or permission of department. Examination of specific new areas which are emerging in the various fields of Mechanical Engineering Technology. The course builds upon the knowledge the students have gained from their Mechanical Engineering Technology curriculum. *May be repeated for credit with change of topic.*

**MEET 4010. Special Topics in Energy. (3)** Prerequisite(s): Engineering major or minor, or permission of department. Examination of emerging energy-related topics and technologies. Coursework builds upon the

knowledge the students have gained from their Mechanical Engineering Technology curriculum. *May be repeated for credit with change of topic.*

**MEET 4020. Special Topics in Electromechanical. (3)** Prerequisite(s): Engineering major or minor, or permission of department. Examination of emerging electromechanical-related topics and technologies. Coursework builds upon the knowledge the students have gained from their Mechanical Engineering Technology curriculum. *May be repeated for credit with change of topic.*

**MEET 4101. Senior Design I. (2)** Prerequisite(s): ETME 3100 or ETME 3200 or MEET 3100; Mechanical Engineering Technology major and senior standing. Pre- or Corequisite(s): ETME 3113 or MEET 3302, ETME 3143 or ETME 3250 or MEET 3251, ETME 3150 or MEET 4211, and ETME 3213 or MEET 3303. First of a two-semester course sequence in which student teams implement a senior-level design project which demonstrates abilities as developed by the coursework taken thus far. Project planning techniques, teamwork, and communication are utilized to make substantial progress toward implementation of a designed solution.

**MEET 4102. Senior Design II. (2)** Prerequisite(s): MEET 4101. A continuation of MEET 4101 consisting of the development and implementation of the designed solution resulting in written reports, oral presentations, a prototype, and appropriate analysis and testing.

**MEET 4211. Applied CAD Modeling and Simulation. (3)** Prerequisite(s): ETME 1111 with grade of C or better or ETME 2111 with grade of C or better or MEET 2211 with grade of C or better and ETME 3123 or MEET 3301; and Engineering Technology major or minor. Pre- or Co-requisite(s): ETME 3250 or MEET 3251. Introduces the use of some of the tools available for the analysis of parametrically-constructed CAD models. Topics include: the finite element method, finite element analysis (FEA), the use of FEA for stress analysis, thermal analysis, and the important distinctions between FEA results, theoretical results, and experimental results.

**MEET 4251. Thermal Engineering Applications. (3)** Prerequisite(s): ETME 3250 or MEET 3251. The second law of thermodynamics, entropy, and irreversibilities culminating in the analysis of thermodynamic devices and cycles. The course covers heat transfer devices including fins and heat exchangers as well as multi-mode problems involving conduction, convection, and radiation.

**MEET 4252. Thermal Fluids Laboratory. (1)** Prerequisite(s): ENGL 2116. Pre- or Corequisite(s): ETME 3250 or MEET 3251. Laboratory experiments related to the areas of fluid mechanics, heat transfer, and thermodynamics. Three hours of laboratory each week.

**MEET 4253. Heating, Ventilating, and Air Conditioning. (3)** Pre- or Corequisite(s): ETME 4250 or MEET 4251. Fundamentals of moist air properties, basic air conditioning processes, heat transfer in building structures, heating and cooling load calculations, air distribution systems, and duct design.

**MEET 4303. Machine Design II. (3)** Prerequisite(s): ETME 3213 and Engineering major or minor. A continuation of Machine Design I with emphasis on new methods of problem solving and opportunities to integrate previously attained skills and knowledge into the design and optimization of small machine systems.

# Mechanical Engineering (MEGR)

**MEGR 0699. MEES Transfer Success. (1)** Prerequisite(s): Mechanical Engineering major. This course is designed to facilitate the successful transition of new transfer students into the B.S. in Mechanical Engineering degree program and the UNC Charlotte community. Students build a repertoire of strategies and resources as they connect with the campus community, including their advisor, faculty, staff, and students. *This course will not replace credit that is required for any other course in the MEES curriculum. Graded on a Pass/Unsatisfactory basis.*

**MEGR 1100. Foundations of Math and Science for Engineers. (4)** Prerequisite(s): Mechanical Engineering major. Pre- or Corequisite(s): ENGR 1201. The study of foundational math and science, including vectors, vector algebra, derivatives, units, Newton's laws, atomic structure, properties of matter, ideal gas law, chemical bonding, etc. Lectures and breakout practice/lab sessions.

**MEGR 2090. Special Topics in Mechanical Engineering. (1 to 3)** Prerequisite(s): Mechanical Engineering major. The special topics covered in each offering of the course serve to advance knowledge at the sophomore level. The content is determined by the instructor and number of credit hours. *May be repeated for credit with change of topic.*

**MEGR 2141. Engineering Mechanics I. (3)** Prerequisite(s): PHYS 2101 and MATH 1242 with grades of C or above; and Mechanical Engineering, Environmental Engineering or Civil Engineering major (MEGR, CEGR or ENVE). C0x sections are for Civil Engineering or Environmental Engineering majors only. Introduces the principles of particle and rigid body mechanics with engineering applications; force systems and resultants; the equilibrium of particles and rigid bodies; friction; and properties of areas and volumes. Individual sections may be restricted to particular majors: -C0x sections are for CEGR and ENVE; -00x sections are open to MEGR, CEGR, or ENVE.

**MEGR 2144. Introduction to Solid Mechanics. (3)** Prerequisite(s): MEGR 2141 with grade of C or above; and Mechanical Engineering or Civil Engineering major (C sections are for Civil Engineering majors only). Engineering theory of deformable solids and applications. Stress and deformation resulting from axial, torsion and bending loads. Shear and moment diagrams, Mohr's circle for stress and strain and buckling of columns.

**MEGR 2152. CAD for Mechanical Engineers. (1)** Prerequisite(s): ENGR 1303 with a grade of C or better; MEGR major. Treatment of design visualization and computer-aided design with an emphasis on design presentation skills. This course requires a grade of C or better for the Mechanical Engineering curriculum.

**MEGR 2156. Design Projects I Laboratory. (2)** Prerequisite(s): ENGR 1201, ENGR 1202, and MEGR 2141, all with grades of C or above; and Engineering major or minor. Corequisite(s): MEGR 2180. Introduction to design, as well as the fundamentals of manufacturing, including lathe and mill work. Emphasis on design visualization, functional analysis, communication, and computer-aided design. Students manufacture a design which then is verified for precision and accuracy.

**MEGR 2157. Design Projects I Laboratory. (3)** Prerequisite(s): ENGR 1300, MEGR 2141 and MEGR 2152, all with grades of C or better; MEGR major. Co-requisite Course(s): MEGR 2180. Introduction to mechanical engineering design with a focus on applying engineering principles to real-world challenges. Students will use engineering models and computer-aided design (CAD) to develop solutions tailored to specific applications. Emphasis is placed on analyzing and optimizing designs, selecting appropriate engineering materials, and effectively communicating solutions through engineering drawings and reports. The course integrates theory with application-based problem-solving, preparing students to address complex design issues across various engineering disciplines. This course requires a grade of C or better for the Mechanical Engineering curriculum.

**MEGR 2173. Mechatronics I. (2)** Prerequisite(s): ENGR 1302 and PHYS 2102 with grades of C or better; MEGR major. Co-requisite Course(s): MEGR 2174. Fundamentals of mechatronic systems, including basic electrical components, sensors, actuators, circuit analysis, data acquisition, and programming a microcontroller. This course requires a grade of C or better for the Mechanical Engineering curriculum.

**MEGR 2174. Mechatronics I Projects Laboratory. (1)** Prerequisite(s): PHYS 2102L with a grade of C or better; MEGR major. Co-requisite Course(s); MEGR 2173. Hands-on assembly, programming, diagnostics, and analysis of mechatronic and measurement systems through a series of projects complementing course material of MEGR 2173. This course requires a grade of C or better for the Mechanical Engineering curriculum.

**MEGR 2180. Manufacturing Systems. (3)** Prerequisite(s): MEGR 2141 with a grade of C or above; Engineering major or minor. Pre- or Corequisite Course(s): MEGR 2156 or MEGR 2157. A broad overview of manufacturing materials, processes, and procedures. Topics include: mechanical behavior and physical properties, basic materials, casting, rolling, forming, welding, cutting, surfaces, engineering metrology, quality assurance, and automation. Basic concepts of engineering economics and cost estimating.

**MEGR 2233. Math and Science for Engineers II. (3)** Prerequisite(s): MATH 1241 with a C or better and either ENGR 1301 or CHEM 1251 with a grade of C or better; MEGR major. A course that includes concepts in chemistry and linear algebra for Mechanical Engineers. Topics include chemical bonding, crystal structure, introduction to electrochemistry, linear systems, matrix algebra, eigenvalues, and eigenvectors. This course requires a grade of C or better for the Mechanical Engineering curriculum.

**MEGR 2234. Math and Science for Engineers III. (4)** Prerequisite(s): MATH 2171 and MEGR 2233 with grades of C or better; MEGR major. Topics include integral transforms, Fourier series, probability distributions, descriptive statistics, and regression. This course requires a grade of C or better for the Mechanical Engineering curriculum.

**MEGR 2240. Computational Methods for Engineers. (3)** Prerequisite(s): MEGR 2141 and Engineering major or minor. Automated engineering analysis and synthesis techniques based on software engineering principles. Overview of data representation and computing languages. Program development using programming languages and off-the shelf software packages. Study of numerical methods, potential errors, and computational stability. emphasis on effective design, testing, and debugging practices.

**MEGR 2242. Computational Methods for Engineers. (2)** Prerequisite(s): Automated engineering analysis and synthesis techniques based on software engineering principles. Overview of data representation and computing languages. Program development using programming languages and off-the-shelf software packages. Study of numerical methods, potential errors, and computational stability. Emphasis on effective design, testing, and debugging practices. This course requires a grade of C or better for the Mechanical Engineering curriculum.

**MEGR 2279. Introduction to Biomedical Engineering. (1)** Prerequisite(s): Admission to BSME Biomedical Engineering concentration and GPA of 3.0 or above. An examination of various aspects of Biomedical Engineering.

**MEGR 2289. Introduction to Precision Engineering and Metrology. (1)** Prerequisite(s): MEGR 2141 with a grade of C or above; Admission into the Precision Engineering and Metrology concentration. An examination of various aspects of precision engineering and metrology. A focus will be placed on relevant industrial metrology instruments such as profilometers, structured light scanners, CMMs, and more; these will be demonstrated in the metrology laboratory. The importance of slideways, bearings, flexures, actuators, and sensors in precision instrumentation will be demonstrated. Students will be exposed to the value added by precision engineering and metrology and potential career pathways in a variety of fields.

**MEGR 2299. Introduction to Motorsports Engineering. (1)** Prerequisite(s): Admission to BSME Motorsports concentration (MSEN). The goal of this course is to familiarize students with the subjects they will study in further depth in their plan of study for the motorsports engineering concentration. Students will also be introduced to the Kulwicki Motorsports Laboratory, and will be instructed in and given the chance to practice good working habits in a motorsports workshop environment.

**MEGR 2319. Introduction to Aerospace Engineering. (1)** Prerequisite(s): MEGR 2141 with a C or better; Admission to the BSME concentration in Aerospace Engineering; MEGR major. An examination of various aspects of aerospace engineering presented by faculty.

**MEGR 2499. Introduction to Energy Engineering. (1)** Prerequisite(s): Admission to BSME Energy concentration, Sophomore, Junior, or Senior standing, and a GPA of 3.0 or above. An examination of various aspects of energy engineering.

**MEGR 2699. MEES Seminar. (1)** Prerequisite(s): Mechanical Engineering major. Students attend presentations given by Mechanical Engineering and Engineering Science (MEES) graduate students, external researchers, and MEES faculty on current research in Mechanical Engineering and related fields. *This course will not replace credit that is required for any other course in the MEES curriculum. Graded on a Pass/Unsatisfactory basis. May be repeated for credit.*

**MEGR 3021. Special Topics in Aerospace Engineering. (2)** Prerequisite(s): MEGR 2319 and MEGR major. Builds upon and synthesizes the knowledge that the students have gained from the

mechanical engineering core curriculum. The specific topics covered in each separate offering of the course will broaden and deepen students' knowledge in area of aerospace engineering. *May be repeated for credit with change of topic.*

**MEGR 3022. Special Topics in Motorsports Engineering. (2)** Prerequisite(s): MEGR 2299 and MEGR major. Builds upon and synthesizes the knowledge that the students have gained from the mechanical engineering core curriculum. The specific topics covered in each separate offering of the course will broaden and deepen students' knowledge in area of motorsports engineering. *May be repeated for credit with change of topic.*

**MEGR 3024. Special Topics in Energy Engineering. (2)** Prerequisite(s): MEGR 2499 and MEGR major. Builds upon and synthesizes the knowledge that the students have gained from the mechanical engineering core curriculum. The specific topics covered in each separate offering of the course will broaden and deepen students' knowledge in area of Energy engineering. *May be repeated for credit with change of topic.*

**MEGR 3027. Special Topics in Biomedical Engineering. (2)** Prerequisite(s): MEGR 2279 and MEGR major. Builds upon and synthesizes the knowledge that the students have gained from the mechanical engineering core curriculum. The specific topics covered in each separate offering of the course will broaden and deepen students' knowledge in area of Biomedical engineering. *May be repeated for credit with change of topic.*

**MEGR 3028. Special Topics in Precision Engineering. (2)** Prerequisite(s): MEGR 2289 and MEGR major. Builds upon and synthesizes the knowledge that the students have gained from the mechanical engineering core curriculum. The specific topics covered in each separate offering of the course will broaden and deepen students' knowledge in area of Precision engineering and Metrology. *May be repeated for credit with change of topic.*

**MEGR 3090. Special Topics in Mechanical Engineering. (3)** Prerequisite(s): Mechanical Engineering major or permission of department; Junior standing or higher. *Technical Elective.* Builds upon and synthesizes the knowledge the students have gained from the mechanical engineering core curriculum. The specific topics covered in each separate offering of the course serve as the vehicle for teaching engineering analysis, synthesis and design, while simultaneously affording an opportunity for the students to point themselves toward an area of specialization. *May be repeated for credit with change of topic.*

**MEGR 3092. Special Topics in Motorsports Engineering. (3)** Prerequisite(s): Mechanical Engineering major; Junior standing or higher. *Technical Elective.* Builds upon and synthesizes the knowledge the students have gained from the mechanical engineering core curriculum. The specific topics covered in each separate offering of the course serve as the vehicle for teaching engineering analysis, synthesis and design, while simultaneously affording an opportunity for the students to point themselves toward an area of specialization. *May be repeated for credit with change of topic.*

**MEGR 3094. Special Topics in Energy Engineering. (3)** Prerequisite(s): Mechanical Engineering major; Junior standing or higher. *Technical Elective.* Builds upon and synthesizes the knowledge the students have gained from the mechanical engineering core curriculum. The specific topics covered in each separate offering of the course serve as the vehicle for teaching engineering analysis, synthesis and design, while simultaneously affording an opportunity for the students to point themselves toward an area of specialization. *May be repeated for credit with change of topic.*

**MEGR 3097. Special Topics in Biomedical Engineering. (3)** Prerequisite(s): Mechanical Engineering major; Junior standing or higher. *Technical Elective.* Builds upon and synthesizes the knowledge students have gained from the Mechanical Engineering core curriculum. The specific topics covered in each separate offering of the course serve as the vehicle for teaching engineering analysis, synthesis and/or design, while simultaneously affording an opportunity for the students to point themselves toward the area of specialization of Biomedical Engineering. *May be repeated for credit with change of topic.*

**MEGR 3111. Thermodynamics I. (3)** Prerequisite(s): MATH 1242 and PHYS 2101 with grades of C or above; and MEGR major, CEGR major, ENVE major, EEGR major, or SEGR major. First and second laws of thermodynamics. Work and heat carnot cycle. Ideal and real gases. Non-reactive mixture of gases. Availability and irreversibility.

**MEGR 3112. Thermodynamics II. (3)** Prerequisite(s): MEGR 3111 with grade of C or above; and Engineering major or minor. General thermodynamic relations; equations of state and generalized charts. Combustion, dissociation, and chemical equilibrium. Introduction to power cycles.

**MEGR 3114. Fluid Mechanics. (3)** Prerequisite(s): MATH 2241 and MEGR 3121 with grades of C or above; and Engineering major or minor. Basic concepts of a fluid and the fundamentals of ideal and real fluid flow. Topics include: fluid statics, conservation principles, Bernoulli's equation, fluid flow in pipes, and measurement devices.

**MEGR 3116. Introduction to Heat Transfer. (3)** Prerequisite(s): MATH 2171 and MEGR 3111 with grades of C or above; and Engineering major or minor. Pre- or Corequisite(s): MEGR 3114. One and two dimensional steady state conduction. Finite difference methods. Radiative heat transfer, emissivity, black body radiation. Heat exchange among two and multi-body systems. Introduction to concepts and applications of convective heat transfer.

**MEGR 3121. Dynamics Systems I. (3)** Prerequisite(s): MEGR 2141 and MATH 1242 with grades of C or above; and Engineering major or minor. The kinematics and kinetics of rigid bodies. Work-energy and impulse-momentum principles and conservation laws. Introduction to the kinematics of mechanisms.

**MEGR 3122. Dynamic Systems II. (3)** Prerequisite(s): MEGR 2240, MEGR 3121, and MATH 2171 with grades of C or above; and Engineering major or minor. Modeling of mechanical dynamic systems. Vibration of lumped mass systems. Analysis and design of mechanical systems using time domain and frequency domain methods.

**MEGR 3123. Dynamic Systems II. (2)** Prerequisite(s): MEGR 2234, MEGR 2242, and MEGR 3121, all with grades of C or better; MEGR major. Modeling of mechanical dynamic systems. Analysis and design of mechanical systems using time domain and frequency domain methods.

**MEGR 3152. Mechanics and Materials Laboratory. (2)** Prerequisite(s): MEGR 2144, with a grade of C or above; and MEGR 3171L or MEGR 3174 with a grade of C or above; and Engineering major or minor. Co-requisite Course(s): MEGR 3161. Laboratory experiments related to the areas of mechanics and materials engineering. Three hours of laboratory work per week.

**MEGR 3156. Design Projects Lab II. (2)** Prerequisite(s): MEGR 2144 and MEGR 2180; MEGR 2156 or MEGR 2157; ECGR 2161 or MEGR 2173 and MEGR 2174, all with a grade of C or above; and Engineering major or minor. Study of the process of design and reduction to practice of engineering concepts in a team environment. Requirements definition, concept synthesis, concept of evaluation, project planning and execution.

**MEGR 3161. Introduction to Engineering Materials. (3)** Prerequisite(s): MEGR 2144 and CHEM 1251 or MEGR 1100 or MEGR 2233, with grades of C or above; and Engineering major or minor. Classifications of engineering materials. Introduction to property structure relationships. Ideal and defect atomic structures of solids with examples from metals, ceramics and polymers. Cold working and annealing effects. Phase equilibria in alloys; introduction to diffusional processes and transformation kinetics.

**MEGR 3162. Mechanical Behavior and Strengthening of Solids. (3)** Prerequisite(s): MEGR 3161 with grade of C or above; and Engineering major or minor. *Technical Elective.* Mechanical properties of materials including elastic behavior, plastic flow, fracture, creep, fatigue, and elevated temperature effects. Correlation of properties with atomic and microscopic structure. Dislocation theory and its application to mechanical behavior and strengthening mechanisms. Alloy hardening effects; effects of processing and heat treatments. Applications in Fe-C alloys.

**MEGR 3171. Introduction to Measurements and Instrumentation. (2)** Prerequisite(s): ECGR 2161 and MATH 2241 with grades of C or above; and Engineering major or minor. Corequisite(s): MEGR 3171L. Statistical analysis of experimental data, curve fitting. Operational amplifiers and signal conditioning techniques for remote monitoring. Discussion of the principles involved in the use of sensors and transducers in measurements of linear and angular displacement, velocity and acceleration, temperature, force, pressure, torque and flow. Introduction to dynamic measurements and frequency analysis.

**MEGR 3171L. Instrumentation Laboratory. (2)** Prerequisite(s): PHYS 2102L with grade of C or above; and Engineering major or minor. Corequisite(s): MEGR 3171. Utilization of measuring equipment targeted to mechanical engineering applications. Experiments will focus on the use of instrumentation and computer interfacing methods for the optimization of measurement processes. Basic programming of scientific instruments.

**MEGR 3173. Mechatronics II. (2)** Prerequisite(s): MEGR 2173 with a grade of C or better; MEGR major. Co-requisite Course(s): MEGR 3174. Fundamentals of mechatronic systems, including concepts in system dynamics, advanced circuit analysis, signal conditioning, error analysis, control, communication, and programming. This course requires a grade of C or better for the Mechanical Engineering curriculum.

**MEGR 3174. Mechatronics II Projects Laboratory. (1)** Prerequisite(s): MEGR 2174 with a grade of C or better; MEGR major. Co-requisite Course(s): MEGR 3173. Hands-on assembly, programming, diagnostics, and analysis of mechatronic and measurement systems through a series of projects complementing course material of MEGR 3173. This course requires a grade of C or better for the Mechanical Engineering curriculum.

**MEGR 3210. Automotive Power Plants. (3)** Prerequisite(s): MEGR 3112 with grade of C or above; and Engineering major or minor. *Technical Elective.* Energy analysis of internal and external combustion engines for vehicular propulsion. Thermodynamic principles for combustion efficient use of fuel combustion, different types of fuel use, and pollutant control.

**MEGR 3211. Road Vehicle Dynamics. (3)** Prerequisite(s): MEGR 3122 with grade of C or above; and Engineering major or minor. *Technical Elective.* An introduction to road vehicle Dynamics. Acceleration and braking performance, road loads, steady-state cornering, suspension, steering system and tire behavior.

**MEGR 3214. Refrigeration and Air/Conditioning. (3)** Prerequisite(s): MEGR 3112 and 3116 with grades of C or above; and Engineering major or minor. *Technical Elective.* Thermodynamics and heat transfer applied to analysis, design of cooling/heating systems.

**MEGR 3216. Thermal/Fluid Design. (3)** Prerequisite(s): MEGR 3111, MEGR 3114, and MEGR 3116 with grades of C or above; and Engineering major or minor. Design of systems utilizing thermodynamic, heat transfer, and fluid flow principles. Topics include: thermal system design, thermodynamic modeling, design applications with heat transfer, thermo-economic optimization of simple and complex systems.

**MEGR 3221. Machine Analysis and Design I. (3)** Prerequisite(s): MEGR 3121 and MEGR 2144 with grades of C or above; and Engineering major or minor. Technical application of basic principles of mechanical science to analysis of machines and mechanical systems. Design of typical machine elements. Strength and deflection requirements.

**MEGR 3225. Introduction to Finite Element Analysis. (3)** Prerequisite(s): MATH 2171, MEGR 2144, and either MEGR 2240 or MEGR 2242 with grades of C or above; and Engineering major or minor. *Technical Elective.* The basic concepts of finite element analysis (FEA) are introduced. The necessary concepts from linear algebra are reviewed. Simple elements such as truss and beam elements are emphasized, with an introduction to continuum elements for structural analysis. Introduction to heat transfer elements for steady state conduction and convection. Mathematics software is used to illustrate such concepts as the finite element assembly process, and the solution of the primary unknowns. A commercially available finite element code is also introduced.

**MEGR 3231. Advanced CAD/CAM. (3)** Prerequisite(s): MEGR 2156 or MEGR 2157 with a grade of C or above; and Engineering major or minor. *Technical Elective.* An introduction to advanced CAD modeling techniques, reverse engineering and Rapid technologies with a detailed application of these tools in engineering design.

**MEGR 3232. Plastic Part Design. (3)** Prerequisite(s): or MEGR 2157 with a grade of C or above; and Engineering major or minor. *Technical Elective.*

An introduction to the science and technology of polymer materials and processes with an emphasis on the application of these topics to engineering design.

**MEGR 3233. Introduction to Biomaterials. (3)** Prerequisite(s): MEGR 3161 with grade of C or above; and Engineering major or minor. *Technical Elective.* An introduction to biomaterials science and engineering, focusing on traditional classes of materials used for biomedical applications (i.e., metals, ceramics, polymers, and composites).

**MEGR 3234. Introduction to Biodynamics. (3)** Prerequisite(s): MEGR 2144 with grade of C or above; and Engineering major or minor. *Technical Elective.* Introduces dynamic analysis of the human musculoskeletal system. Students learn to develop lumped mass, planar rigid body and 3D rigid body models of human movement, and to learn to calculate internal forces in muscles and joints during daily and sports activities.

**MEGR 3235. Waves and Optics. (3)** Prerequisite(s): MATH 2171 and MEGR 3122 with grades of C or above; and Engineering major or minor. *Technical Elective.* An introductory study of optics covering geometrical optics, optical instruments, wave optics (interference and diffraction), Fourier analysis, and polarization.

**MEGR 3236. Introduction to Nanoscale Science and Engineering. (3)** Prerequisite(s): MEGR 3161 with a grade of C or above; and Engineering major or minor. *Technical Elective.* Introduction to nanoscale science and engineering. Topics include: nanomanufacturing, nanomaterials and nanostructures, nanomechanics, experiments with nano-instruments, and related environmental issues.

**MEGR 3237. Introduction to Control Systems. (3)** Prerequisite(s): MEGR 3122 with grade of C or above. *Technical Elective.* Treatment of the theoretical and practical foundations for the design of automatic control systems; control-oriented modeling, idealized time-domain control design and real-world frequency-domain design techniques that can be used to address practical issues of environmental disturbances, model uncertainty, sensor imperfections, communication delays, and actuator dynamics.

**MEGR 3238. Microscopy for Engineering. (3)** Prerequisite(s): MEGR 3161 with a grade of C or above. *Technical elective.* Theory and practical experience in microscopic techniques including optical microscopy and SEM; applications of microscopic techniques in engineering fields, such as morphology of microstructures, analysis of compositions, crystal structure determination, and sample preparation.

**MEGR 3240. Advanced Automotive Powerplants. (3)** Prerequisite(s): MEGR 3210 with a grade of C or above. *Technical Elective.* This is a follow-up course to MEGR 3210. Topics include: engine power parameters, race engine design considerations, advanced engine cycles, component design, and fuel delivery/control strategies.

**MEGR 3241. Advanced Motorsports Instrumentation. (3)** Prerequisite(s): MEGR 3171 with grade of C or above; and Engineering major or minor. *Technical Elective.* Instruction in data acquisition and analysis techniques as applied in a motorsports setting. A survey of current industry hardware standards including sensors, wiring, logging and display units. Wiring harness construction and installation methods. Analysis of acquired data using industry standard data analysis software. Emphasis on application in race car design and operation contexts.

**MEGR 3242. Applied Vehicle Aerodynamics. (3)** Prerequisite(s): MEGR 2240, MEGR 3111, and MEGR 3114, all with grade of C or above; and Engineering major or minor. *Technical Elective.* Flow of air around streamlined and bluff bodies, aerodynamic forces, understanding flow separation and reattachments, aerodynamic tools, introduction to computational fluid dynamics, use of commercial CFD packages to solve fluid flow problems, computer simulation and analysis of flow around bluff bodies and road vehicles including racecars.

**MEGR 3244. Tire Mechanics. (3)** Prerequisite(s): MEGR 2144 with a grade of C or above. Pre- or Corequisite(s): MEGR 3121. *Technical Elective.* In-depth analysis of the tire and its influence on vehicle performance, including: design, materials, construction, structural response, rolling resistance, force and moment generation, NVH, wet and dry traction, wear, high speed limit, and standards. Tire models, their limitations, and their governing equations.

**MEGR 3245. Advanced Experimental Methods. (3)** Prerequisite(s): Engineering major and ECGR 2161 with grade of C or above. *Technical Elective.* Incorporates lectures, research, and experimental labs relating to jet propulsion, rockets, underwater propulsion, high-speed vehicles, etc. Labs involve configuring instrumentation and data acquisition as well as analysis of data collected during experiments.

**MEGR 3251. Thermal/Fluids Laboratory. (2)** Prerequisite(s): MEGR 3111, MEGR 3114, and MEGR 3171L, all with grades of C or above; and Engineering major or minor. Laboratory experiments related to the areas of thermodynamics, fluid mechanics, and heat transfer. Three hours of laboratory work per week.

**MEGR 3255. Senior Design I. (2)** Prerequisite(s): MEGR 3111, MEGR 3114, MEGR 3161, MEGR 3171L or MEGR 3174, and MEGR 3156, all with a grade of C or better; and Engineering major or minor. Pre- or Corequisite(s): MEGR 3152 and MEGR 3251. First of a two-semester sequence leading to a major integrative experience in applying the principles of design and project management to the design of a major mechanical engineering system. Teamwork and communication skills are emphasized.

**MEGR 3256. Senior Design II. (2)** Prerequisite(s): MEGR 3255 and Engineering major or minor. A continuation of MEGR 3255 including project execution leading to an oral presentation and final written report.

**MEGR 3260. Clean Coal Technology. (3)** Prerequisite(s): MEGR 3112 and MEGR 3114 with grades of C or above. Pre- or Corequisite(s): MEGR 3116. *Technical Elective.* A treatment of conventional and high-efficiency low-emissions (HELE) coal-based energy conversion technologies, principles of coal combustion and gasification, pollutant formation and its effects on the environment, emissions regulations, and options for pollution control of existing and newly-constructed power plants.

**MEGR 3261. Sustainable Energy. (3)** Prerequisite(s): MEGR 3111 with a grade of C or above. *Technical Elective.* A treatment of global energy challenges, current energy usage, energy carriers, environmental impacts, future energy usage, transitions in energy usage and societal changes, and energy conversion technologies.

**MEGR 3262. Turbomachinery. (3)** Prerequisite(s): MEGR 3111 and MEGR 3114 with grades of C or above. Pre- or Corequisite(s): MEGR 3116.

*Technical Elective.* A treatment of the types, uses, and principles of operation of turbomachines; usage of fluid mechanics, thermodynamics and a blend of additional theory and applications for the selection, specification, and use of turbomachines.

**MEGR 3270. Biomedical Fluidics: Microfluidics. (3)** Prerequisite(s): MEGR 3114, MEGR 2279, BIOL 3111, or CHEM 4165 with grade of C or above. *Technical Elective.* Exploration of micro/nanotechnology, microfluidics, and biomedical applications; design, analysis, manufacture, and use of microfluidic platforms; brain cell culturing; manipulation of cellular microenvironments in microfluidic platforms.

**MEGR 3271. Biomedical Manufacturing: 3D Biofabrication. (3)** Prerequisite(s): MEGR 2156, MEGR 2180, or MEGR 2279 with grade of C or above. Technical Elective. 3D biofabrication technologies, including 3D printing and its impact on health challenges including the regeneration of tissue, bones, and organs; application of computer-aided design software; 3D fabrication of non-biomaterials; brain cell culturing and 3D fabrication of biomaterials.

**MEGR 3272. Introduction to Bio-Polymers and Composites. (3)** Prerequisite(s): MEGR 3161 with a grade of C or above. *Technical elective.* Addresses the basics of polymer science and engineering and correlation between structural parameters and properties of the polymers including mechanical and biocompatibility properties. Examples of medical devices made of polymers and used to fix artificial joints or augment tissue are discussed.

**MEGR 3275. Biomedical Engineering Senior Design I. (2)** Prerequisite(s): Admission to BSME Biomedical Engineering concentration; MEGR 2279, MEGR 3111, MEGR 3114, MEGR 3161, MEGR 3171L or MEGR 3174, and MEGR 3156, all with a grade of C or better. Pre- or Corequisite(s): MEGR 3152 and MEGR 3251. First of a two-semester sequence leading to a major integrative experience in applying the principles of design and project management to the design of a biomedical engineering system or the solution of a biomedical engineering problem. Teamwork and communication skills are emphasized.

**MEGR 3276. Biomedical Engineering Senior Design II. (2)** Prerequisite(s): Admission to BSME Biomedical Engineering concentration and MEGR 3275. A continuation of MEGR 3275, including project execution, project reporting, and leading to an oral presentation and a final written report.

**MEGR 3280. Metrology Fundamentals Laboratory. (3)** Prerequisite(s): MEGR 2180 with a grade of C or higher. Introductory metrology concepts and their practical use in industrial settings and precision engineering applications via laboratory work. Basic concepts of calibration and traceability. Laboratory work will focus on the regimes of size, form, angle, and surface texture. Handheld metrology instruments, surface plate work (using common reference artifacts and comparative measurements), and hard gaging. Specification of surface texture profile parameters and verification using profilometry measurements.

**MEGR 3282. Data-driven Quality Engineering and Metrology. (3)** Prerequisite(s): MEGR 2180 with grade of C or above; and Engineering major or minor. *Technical Elective*. Statistical concepts: probability distributions, coverage intervals, and hypothesis testing. Introduction to quality control, control charts for attributes and variables, acceptance sampling. Introduction to uncertainty and its role in decision rules and conformity determination. Gage repeatability and reproducibility. Process capability estimation and process control. Tolerance stack-up analysis.

**MEGR 3283. Practical Applications of Precision Engineering and Metrology. (3)** Prerequisite(s): MEGR 2180 with a grade of C or above. A review of metrology, uncertainty, and precision engineering fundamentals. The application of these fundamentals in industrial practice will be provided through a series of case studies that include, but are not limited to; measurement of machine tool errors, optical metrology approaches for form and texture measurements, coordinate metrology systems and their application, the role of metrology in process development, control and optimization, application of precision design in manufacturing and measurement, and the role and integration of artificial intelligence in metrology. Guest lectures will be curated to treat emerging topics.

**MEGR 3285. Precision Senior Design I. (2).** Prerequisite(s): MEGR 2289, MEGR 3111, MEGR 3114, MEGR 3161, MEGR 3171L or MEGR 3174, and MEGR 3156, all with a grade of C or better; Admission into the Precision Engineering and Metrology concentration. Pre- or Corequisite(s): MEGR 3152 and MEGR 3251. First of a two-semester sequence leading to a major integrative experience in applying the principles of design and project management to the design of a major mechanical engineering system with precision engineering / metrology emphases. Teamwork and communication skills are emphasized.

**MEGR 3286. Precision Senior Design II. (2)** Prerequisite(s): MEGR 3285; Admission into the Precision Engineering and Metrology concentration. Second of a two-semester sequence leading to a major integrative experience in applying the principles of design and project management to the design of a major mechanical engineering system with precision engineering / metrology emphases. Teamwork and communication skills are emphasized.

**MEGR 3310. Flight Mechanics. (3)** Prerequisite(s); MEGR 2141 with a grade of C or above; MEGR major. Fundamentals of atmospheric flight vehicle dynamics, performance, and stability analysis.

**MEGR 3315. Aerospace Senior Design I. (2)** Prerequisite(s): MEGR 2319, MEGR 3111, MEGR 3161, MEGR 3114, MEGR 3171L or MEGR 3174, and MEGR 3156, all with a grade of C or better; MEGR major. Pre- or Co-requisite Course(s): MEGR 3152 and MEGR 3251. First of a two-semester sequence leading to a major integrative experience in applying the principles of design and project management to the design of a major mechanical engineering system with aerospace engineering emphases. Teamwork and communication skills are emphasized.

**MEGR 3316. Aerospace Senior Design II. (2)** Prerequisite(s): MEGR 3315; MEGR major. Second of a two-semester sequence leading to a major integrative experience in applying the principles of design and project management to the design of a major mechanical engineering system with aerospace engineering emphases. Teamwork and communication skills are emphasized.

**MEGR 3355. Motorsports Senior Design I. (2)** Prerequisite(s): Admission to BSME Motorsports concentration; MEGR 2299, MEGR 3111, MEGR 3114, MEGR 3161, MEGR 3171L or MEGR 3174, and MEGR 3156, all with a grade of C or better. Pre- or Corequisite(s): MEGR 3152 and MEGR

3251. First of a two-semester sequence leading to a major integrative experience in applying the principles of design and project management to the design of an automotive engineering system. Teamwork and communication skills are emphasized. An examination of various aspects of automotive and motorsports engineering presented by faculty and industry representatives.

**MEGR 3356. Motorsports Senior Design II. (2)** Prerequisite(s): Admission to BSME Motorsports concentration and MEGR 3355. A continuation of MEGR 3355 including project execution, project reporting and leading to an oral presentation and a final written report. An examination of various aspects of automotive and motorsports engineering presented by faculty and industry representatives.

**MEGR 3452. Introduction to Nuclear Engineering. (3)** Prerequisite(s): MEGR 3111, MEGR 3114, and MEGR 3116, all with grade of C or above; and Engineering major or minor. *Technical Elective.* An introduction to the science and technology of nuclear engineering as applied to power plant operation and design.

**MEGR 3455. Energy Senior Design I. (2)** Prerequisite(s): Admission to BSME Energy concentration; MEGR 2499, MEGR 3111, MEGR 3114, MEGR 3161, MEGR 3171L or MEGR 3174, and MEGR 3156, all with a grade of C or better. Pre- or Corequisite(s): MEGR 3152 and MEGR 3251. First of a two-semester sequence leading to a major integrative experience in applying the principles of design and project management to the design of a major mechanical engineering system with energy/power emphases. Teamwork and communication skills are emphasized.

**MEGR 3456. Energy Senior Design II. (2)** Prerequisite(s): MEGR 3455 and Engineering major or minor. Second of a two-semester sequence leading to a major integrative experience in applying the principles of design and project management to the design of a major mechanical engineering system with energy/power emphases. Teamwork and communication skills are emphasized.

**MEGR 3695. Mechanical Engineering Cooperative Education Seminar. (1)** Prerequisite(s): ENGR 3500 and Engineering major or minor. Required of Co-op students during semesters immediately following each work assignment for presentation of engineering reports on work done the prior semester. *Graded on a Pass/No Credit basis. May be repeated for credit.*

**MEGR 3890. Individualized Study. (1 to 3)** Prerequisite(s): Engineering major or minor, and permission of department. Supervised individual study within an area of a student's particular interest which is beyond the scope of existing courses. *May be repeated for credit.*

**MEGR 4090. Special Topics in Mechanical Engineering. (3)** Prerequisite(s): Mechanical Engineering major; Junior standing or higher. Cross-listed Course(s): MEGR 5090. *Technical Elective.* Builds upon and synthesizes the knowledge that the students have gained from the mechanical engineering core curriculum. The specific topics covered in each separate offering of the course serve as the means for teaching engineering analysis, synthesis, and/or design. *May be repeated for credit with change of topic.*

**MEGR 4091. Special Topics in Aerospace Engineering. (3)** Prerequisite(s): MEGR major. Cross-listed Course(s): MEGR 5091. Builds upon and synthesizes the knowledge that the students have gained from the mechanical engineering core curriculum. The specific topics covered in each separate offering of the course will broaden and deepen students' knowledge in areas of aerospace engineering, including but not limited to: aerospace propulsion, aerospace materials, aerospace structures, aerospace vehicle design, astromechanics, flight dynamics, and aerospace vehicle guidance, navigation, and control. *May be repeated for credit with change of topic.*

**MEGR 4092. Special Topics in Motorsports Engineering. (3)** Prerequisite (s): Mechanical Engineering major; Junior standing or higher. Cross-listed Course(s): MEGR 5092. *Technical Elective*. Builds upon and synthesizes the knowledge gained from the mechanical engineering core curriculum. The specific topics covered in each separate offering of the course serve as the means for teaching engineering analysis, synthesis, and/or design in topics that relate to Motorsports Engineering. *May be repeated for credit with change of topic.*

**MEGR 4094. Special Topics in Energy Engineering. (3)** Prerequisite (s): Mechanical Engineering major; Junior standing or higher. Cross-listed Course(s): MEGR 5094. *Technical Elective*. Builds upon and synthesizes the knowledge gained from the mechanical engineering core curriculum. The specific topics covered in each separate offering of the course serve as the means for teaching engineering analysis, synthesis, and/or design in topics that relate to Energy Engineering. *May be repeated for credit with change of topic.*

**MEGR 4097. Special Topics in Biomedical Engineering. (3)** Prerequisite (s): Mechanical Engineering major; Junior standing or higher. Cross-listed Course(s): MEGR 5097. *Technical Elective*. Builds upon and synthesizes the knowledge gained from the mechanical engineering core curriculum. The specific topics covered in each separate offering of the course serve as the means for teaching engineering analysis, synthesis, and/or design in topics in Biomedical Engineering. *May be repeated for credit with change of topic.*

**MEGR 4098. Special Topics in Precision Engineering. (3)** Prerequisite(s): Mechanical Engineering major; Junior standing or higher. Cross-listed Course(s): MEGR 5098. *Technical Elective.* Builds upon and synthesizes the knowledge that students have gained from the mechanical engineering core curriculum. The specific topics covered in each separate offering of the course serve as the means for teaching engineering analysis, synthesis, and/or design. *May be repeated for credit with change of topic.*

**MEGR 4127. Introduction to Robotics. (3)** Prerequisite(s): Senior standing and Mechanical Engineering major. Cross-listed Course(s); ECGR 4161. Introduction to the broad field of robotics, including industrial assembly robots, autonomous vehicles, and entertainment robots. Emphasis on the basic technologies and integration of mechanical, electrical, and software sub-systems into a complete device.

**MEGR 4143. Discrete Mechanical Vibrating Systems. (3)** Prerequisite(s): MEGR 3122 or MEGR 3123 with grade of C or above; and Engineering major or minor. *Technical Elective.* Free and forced vibrations of lumped parameter systems with multi-degrees of freedom. Topics include: transient and steady state response, determination of natural frequencies and mode shapes with and without damping. Introduction to principal coordinates and matrix iteration techniques.

**MEGR 4210. Automotive Powerplants. (3)** Prerequisite(s): Mechanical Engineering major and MEGR 3111 with grade of C or above. Cross-listed Course(s): MEGR 5210. The engineering principles governing internal combustion engine theory, design, and applications.

**MEGR 4211. Road Vehicle Dynamics. (3)** Prerequisite(s): Mechanical Engineering major and MEGR 3122 or MEGR 3123 with grade of C or above. Cross-listed Course(s): MEGR 5211. *Technical elective.* Topics related to vehicle dynamics and modeling thereof. Acceleration and braking performance, road loads, steady-state cornering, suspension, steering system, and tire behavior.

**MEGR 4212. Advanced Road Vehicle Dynamics. (3)** Prerequisite(s): MEGR 4211 with a grade of C or above. Cross-listed Course(s): MEGR 5212. Advanced topics related to road vehicle dynamics. Topics will include tire mechanics and behavior modeling, transient handling dynamics, and vehicle modeling and simulation. This course will build on the foundations established in road vehicle dynamics to develop a more comprehensive understanding of vehicle behavior. The course will include instruction on the use of Dymola simulation software, and this software will be used to illustrate and explore the concepts covered over the semester.

**MEGR 4213. Hybrid and Alternative Fuels Automotive Power Plants. (3)** Prerequisite(s): MEGR 3121 with a grade of C or better, MEGR 2240 or MEGR 2242 with a grade of C or better, and either ECGR 2161 or MEGR 2173 and MEGR 2174 with grades of C or better. Cross-listed Course(s): MEGR 5213. Course material covers advanced engineering principles governing automotive vehicle design as it relates to alternative fueled and hybrid vehicles.

**MEGR 4235. Waves and Optics. (3)** Prerequisite(s): Mechanical Engineering major; and MEGR 3122 or MEGR 3123 with a grade of C or above. Cross-listed Course(s): MEGR 5235 *Technical Elective*. An introductory study of optics covering geometrical optics, optical instruments, wave optics (interference and diffraction), Fourier analysis, and polarization.

**MEGR 4237. Introduction to Control Systems, (3)** Prerequisite(s): Mechanical Engineering major and MEGR 3122 or MEGR 3123 with a grade of C or above. Cross-listed Course(s): MEGR 5237. Fundamentals of classical control analysis and design. Topics include: modeling and analyzing control systems; design of automatic controllers.

**MEGR 4240. Advanced Automotive Powerplants. (3)** Prerequisite(s): MEGR 4210 and Mechanical Engineering major. Cross-listed Course(s): MEGR 5240. *Technical Elective.* Advanced engineering principles governing internal combustion engine theory, design, and application.

**MEGR 4242. Applied Vehicle Aerodynamics. (3)** Prerequisite(s): MEGR 3114 with a C or above, and either MEGR 2240 or MEGR 2242 with a grade of C or above; and Mechanical Engineering major. Cross-listed Course(s): MEGR 5242. Flow of air around streamlined and bluff bodies, aerodynamic forces, understanding flow separation and reattachments, aerodynamic tools, introduction to computational fluid dynamics, use of commercial CFD packages to solve fluid flow problems, computer simulation and analysis of flow around bluff bodies and road vehicles including race cars.

**MEGR 4244. Tire Mechanics. (3)** Prerequisite(s): MEGR 2144 with grade of C or above; and Mechanical Engineering major. Cross-listed Course(s): MEGR 5244. Pre- or Corequisite(s): MEGR 3121. In-depth analysis of the tire and its influence on vehicle performance, including: design, materials, construction, structural response, rolling resistance, force and moment generation, NVH, wet and dry traction, wear, high speed limit, and standards. Tire models, their limitations, and their governing equations.

**MEGR 4272. Mechanics of the Human Locomotor System. (3)** Prerequisite(s): MEGR 2144 with grade of C or above; and Mechanical Engineering major. Cross-listed Course(s): MEGR 5272. Introduces dynamic analysis of the human musculoskeletal system. Students learn to develop 3-D rigid body models of human movement, and how to calculate internal forces in muscles and joints during daily and sports activities. Students also learn how to use motion capture system and simulation software of human locomotion.

**MEGR 4271. Orthopedic Biomechanics. (3)** Prerequisite(s): Mechanical Engineering major and MEGR 2144 with grade of C or above. Cross-listed Course(s): MEGR 5271. Introduces mechanical properties of human body's hard tissues (bone and cartilage) and soft tissues (muscles, ligament and tendon), and joint biomechanics. Focuses on mechanical and biological considerations for treatment of orthopedic diseases and sports injuries, such as bone fractures, ACL injury, and osteoarthritis. Students learn how to solve medical problems using their engineering knowledge and skills.

**MEGR 4273. Regenerative Neural Engineering. (3)** Prerequisite(s): Mechanical Engineering major; and MEGR 2156, MEGR 2157, MEGR 2180, or MEGR 2279, with grade of C or above. Cross-listed Course(s): MEGR 5273. The basic principles of neuroscience and biomedical engineering, and the use of these principles in regenerative neural engineering. Topics include: the state-of-the-art in the use of advanced 3D bioprinting, stem cells, conductive materials, nanomaterials, neural modeling, and brain machine interfaces as applied to solving prevalent clinical issues related to neurology.

**MEGR 4274. Bioelectronic Medicine. (3)** Prerequisite(s): MEGR 2156, MEGR 2157, MEGR 2180, or MEGR 2279, with grade of C or above; and Mechanical Engineering major. Cross-listed Course(s): MEGR 5274. The basic principles of neuroscience and neural engineering, and the use of engineering principles in bioelectronic medicine. Topics include: the use of optogenetics, electrical stimulation, electromagnetic stimulation, and brain machine Interfaces as applied to solving prevalent clinical issues related to neurology and neural engineering.

**MEGR 4280. Advanced Manufacturing Processes. (3)** Prerequisite(s): Mechanical Engineering major; and MEGR 2144 and MEGR 2180 with grades of C or above, and either MEGR 2156 or MEGR 2157 with a grade of C or above. Cross-listed Course(s): MEGR 5280. Detailed analytical treatment of manufacturing materials, processes and procedures. Forming processes, casting processes, metal cutting processes, tool materials, joining processes, automation, and economics.

**MEGR 4281. GD&T for Design and Inspection. (3)** Prerequisite(s): MEGR 2180 and either MEGR 2240 or MEGR 2242, with a grade of C or above. Cross-listed Course(s): MEGR 5281. Reconciles the engineering design process with manufacturing quality control. These two conceptual domains of geometric specification (from the perspective of

a designer) and verification (from the perspective of a metrologist) are brought together in a comprehensive and integrated manner in this class. Students will learn to (i) develop and interpret rigorous engineering drawings, (ii) convey and recognize design intent via geometric specification, and (iii) anticipate and apply inspection and metrology techniques to verify that manufactured components meet specification. These goals will be met through the coverage of topics such as geometric dimensioning and tolerancing (GD&T), dimensional inspection techniques, and coordinate metrology. Recent developments and special topics will also be presented including model-based definition (MBD), digital twins, 'Industry 4.0,' novel metrology techniques, and advanced computational metrology.

**MEGR 4282. Fundamentals of Precision Machine Design. (3)** Prerequisite(s): MEGR 2180 with a grade of C or above. Pre- or Corequisite(s): MEGR 3221. Cross-listed Course(s): MEGR 5282. An introduction to the engineering principles utilized in the design, fabrication, and testing of precision systems. This course builds on traditional engineering concepts with a focus on achieving precision, repeatability, and accuracy in the end result. The assessment and quantification of errors. Machine frames, sliding and rolling element bearings, flexures, hydrostatic bearings, as well as sensors and controls will be analyzed.

**MEGR 4290. Introduction to Electric Vehicles and Batteries. (3)** Prerequisite(s): MEGR 3121 and MEGR 3111 with grades of C or above. Cross-listed Course(s): MEGR 5290. Introduction to the drivetrain and power supply of electric vehicles. Automotive drive cycle analysis and range estimation for conventional vehicles, hybrid vehicles and electric vehicles. Fuel efficiency, carbon emissions, and power requirements of all three types of vehicles will be discussed. Discussions on different types of batteries and their challenges. Basics of battery chemistry and sizing for vehicle demands.

**MEGR 4291. Battery Performance and Testing. (3)** Pre- or Corequisite(s): MEGR 3152. Cross-listed Course(s): MEGR 5291. Introduction to the basic characterization and fundamental working mechanisms of the equipment. Also, students will have the chance to operate the equipment including cyclers, electrochemistry workstation, glovebox battery assembling, etc.

**MEGR 4292. Materials Science in Battery Technology. (3)** Prerequisite(s): MEGR 3161. Cross-listed Course(s): MEGR 5292. Introduction to the materials science used in advanced battery technology, especially Li-ion battery technology. Discussions will include basic electrochemical engineering, battery component materials (i.e. electrodes, electrolytes, separator), underlying properties and performance, and full devices.

**MEGR 4310. Uncrewed Aerial Vehicles. (3)** Prerequisite(s): MEGR 3310 and MEGR 3121 all with grades of C or better; MEGR major. Cross-listed Course(s): MEGR 5310. Fundamental concepts and technologies related to the dynamics, control, navigation, and guidance of uncrewed aerial vehicles.

**MEGR 4311. Aerospace Materials. (3)** Prerequisite(s): MEGR 3161 with a grade of C or above; MEGR major. Cross-listed Course(s); MEGR 5311. Overview and analysis of weight-efficient and high performance advanced materials for aerospace and other mechanical engineering applications, including composites, polymers, and ceramics.

**MEGR 4312. Aerospace Propulsion. (3)** Prerequisite(s): MEGR 3111 with C or better and MEGR 3114 with C or better; MEGR major. Cross-listed Course(s): MEGR 5312. An overview of aerospace propulsion and turbomachinery systems, including fundamentals of aerothermodynamics, compressible fluid flows, combustion, propeller propulsion, air-breathing engines, and rocket propulsion.

**MEGR 4313. Astromechanics. (3)** Prerequisite(s): MEGR 3121 with a grade of C or better. Fundamental principles of astromechanics. Cross-listed Course(s): MEGR 5313. Topics include the two-body problem, constants of motion and orbital elements, reference frames and coordinate systems, orbital maneuvers, energy and time-of-flight relationships, orbit determination, orbital maneuvers, launch windows and orbital rendezvous, patched conic approximation, spacecraft mission design and space systems technology/history.

# Meteorology (METR)

**METR 1102. Introduction to Meteorology. (3)** A first look at various aspects of meteorology, including solar radiation, temperature, pressure and wind, stability, global circulations, precipitation processes, weather systems, severe weather, and current environmental issues. Basic physical principles, meteorological terminology, societal impacts, weather analysis and career options within the field of meteorology are explored.

**METR 1102L. Introduction to Meteorology Lab. (1)** Introduces atmospheric and weather phenomena, and allows students to analyze current and past weather events, use meteorological data to develop forecasts, and create contoured maps which are used to explain contemporary environmental issues.

**METR 1600. First-Year Meteorology Seminar. (1)** Prerequisite(s): Declared meteorology majors only with 60 or fewer credits. Introductory-level seminar course for meteorology majors in the first year of the program designed to support their long-term academic success. Selected topics covered include time management, study skills, effective communication, and career and internship opportunities in meteorology and the atmospheric sciences. Students will regularly reflect on course topics and identify how content will be applied in their lives to further encourage their success.

**METR 3140. Fundamentals of Meteorology. (3)** Prerequisite(s): METR 1102, ESCI 1101, or permission of instructor. Fundamental physical principles of meteorology: analysis of atmospheric behavior, the governing forces and map contouring are all introduced. Specific topics include solar radiation, temperature, moisture, wind and pressure, synoptic systems, jet streams, local weather, thunderstorms, and tropical systems.

**METR 3210. Atmospheric Thermodynamics. (3)** Prerequisite(s): METR 3140 with grade of C or above and MATH 1241, or permission of instructor. Pre- or Corequisite(s): MATH 1242. The study of the physical processes associated with atmospheric thermodynamics and stability. Topics include: atmospheric composition, equation of state, hydrostatics, first and second laws of thermodynamics for dry, moist, and saturated air, atmospheric stability, parcel buoyancy, and

thermodynamic diagrams. Three hours of combined lecture and lab per week.

**METR 3220. Physical Meteorology. (3)** Prerequisite(s): METR 3210 with grade of C or above, or permission of instructor. Fundamentals of cloud and precipitation physics, atmospheric electricity, atmospheric radiation, and radiative transfer. Three hours of combined lecture and lab per week.

**METR 3245. Synoptic Meteorology. (4)** Prerequisite(s): METR 3210 with grade of C or above, or permission of instructor. Principles of meteorological analysis; fundamental concepts of meteorology, thermodynamics, and kinematics are integrated to understand the structure and evolution of mid-latitude cyclones and fronts. Three hours of lecture and one three-hour lab per week.

**METR 3250. Dynamic Meteorology. (3)** Prerequisite(s): METR 3245 with grade of C or above, MATH 1242, and PHYS 2101; or permission of instructor. Principles of atmospheric dynamics including the equations of motion, circulation, vorticity, divergence, balanced and unbalanced flows, and the general circulation. Three hours of combined lecture and lab per week.

**METR 3330. Weather Forecasting. (3)** Prerequisite(s): METR 3245 or permission of instructor. Focuses on weather forecasting: real-time, short-term, and long-term. Verification techniques are studied. Three hours of combined lecture and lab per week.

**METR 3340. Weather Communications. (3)** Pre- or Corequisite(s): METR 3140 or permission of instructor. A survey of the field of weather communications covering weather forecasting principles, television and radio broadcasting, science writing, forensic meteorology, and forecasting for business applications. Three hours of combined lecture and lab per week.

**METR 4000. Selected Topics in Meteorology. (1 to 4)** Prerequisite(s): METR 3140 or permission of instructor. In-depth treatment of specific topics selected from meteorology. *May be repeated for credit with change of topic.*

**METR 4105. Meteorological Computer Applications. (3)** Prerequisite(s): METR 3140 and MATH 1241 with grade of C or above, or permission of instructor. Principles of computer programming applied to the analysis of meteorological data. Students become familiar with the Unix environment, learn programming basics, and create programs to analyze various meteorological datasets. Topics include: program composition, compiling, data types, mathematical operators, selective execution, repetitive execution, arrays, functions, and subroutines. Three hours of combined lecture and lab per week.

**METR 4110. Atmospheric Instrumentation. (3)** Prerequisite(s): METR 3210 with grade of C or above, or permission of the instructor. An overview of common atmospheric measurements systems and their applications. Particular attention is paid to surface, sounding, radar, and satellite systems. Three hours of combined lecture and lab per week.

**METR 4205. Climate Dynamics. (3)** Prerequisite(s): ESCI 3101 and METR 4105 with grade of D or above. Global climate, climate variability, and dynamics within the climate system, including large-scale phenomena such as El Nino and the North Atlantic Oscillation. Analysis of the links between large-scale climate phenomena and local weather. Three hours of combined lab and lecture per week.

**METR 4240. Boundary-Layer Meteorology. (3)** Prerequisite(s): METR 3210 or permission of instructor. Examines the flow of temperature, moisture and wind within the atmosphere's boundary layer, including their interactions and exchanges with Earth's land and water surfaces. Applications to the diurnal cycle, short-term forecasting, and air pollution are also discussed. Three hours of lecture per week.

**METR 4245. Advanced Synoptic Meteorology. (3)** Prerequisite(s): METR 3250 with grade of C or above, or permission of instructor. An integrated view of synoptic and dynamic meteorology focusing on advanced conceptual models and analysis techniques for mid-latitude weather systems and regional precipitation events. Three hours of combined lecture and lab per week.

**METR 4250. Advanced Dynamic Meteorology. (3)** Prerequisite(s): METR 3250 with grade of C or above, MATH 2171, and MATH 2241; or permission of instructor. An in-depth examination of atmospheric dynamics, focusing on the structure and evolution of synoptic and mesoscale weather systems, wave dynamics (Rossby, topographic, inertia-gravity, etc.), scale-analysis, non-dimensional numbers, and atmospheric modeling. Three hours of combined lecture and lab per week.

**METR 4320. Tropical Meteorology. (3)** Prerequisite(s): METR 3250 or permission of instructor. A comprehensive study of the tropical atmosphere, including climatology, mean structure and circulation, air-sea energy exchange, cumulus transport, synoptic waves, and tropical storms. Special attention is paid to the formation, evolution, motion, and societal impacts of hurricanes. Three hours of combined lecture and lab per week.

**METR 4350. Mesoscale Meteorology. (3)** Pre- or Corequisite(s): METR 3250 or permission of instructor. A comprehensive study of the structure, evolution, and dynamics of atmospheric phenomena having spatial scales between 2 and 2000 km. Topics include: fronts, convective initiation, mesoscale convective systems, severe thunderstorms, tornadoes, low-level jets, drylines, land-sea breezes, shallow convection, and terrain effects. Three hours of combined lecture and lab per week.

**METR 4400. Internship in Meteorology. (3-6)** Prerequisite(s): Permission of department. Research and/or work experience designed to be a logical extension of a student's academic program. The student must apply to department for an internship by submitting a proposal which specifies the type of work/research experience preferred and how the internship will complement his or her academic program. The department will attempt to place the selected students in cooperating community organizations to complete specified research or work-related tasks which are based on a contractual arrangement between the student and community organization. The student can receive three to six hours credit, depending on the nature and extent of the internship assignment. *May be repeated for credit with change of topic.*

**METR 4650. Meteorology Professional Seminar. (1)** Prerequisite(s): METR 3245 or permission of instructor. Advanced seminar series examining contemporary scientific themes and career opportunities in the atmospheric sciences. Coursework consists of a series of oral presentations by students, combined with traditional and invited

lectures. Topics include: short-term and long-term career goals, internships, graduate school, resume building, professional ethics, interview strategies, and on-campus opportunities.

**METR 4800. Individual Study in Meteorology. (1 to 4)** Prerequisite(s): Permission from the department and credit hours established in advance; and, when taken for honors credit, approval of a proposal through the Honors College Application to Candidacy process the semester prior to taking the course. Tutorial study or special research problems. Students must request permission for independent study from an individual faculty member. *May be repeated for credit with change of topic.*

# Management (MGMT)

**MGMT 3000. Topics in Management. (3)** Prerequisite(s): Junior or Senior standing. Topics from the area of Management and Administration. *May be repeated for credit.*

**MGMT 3140. Management and Organizational Behavior. (3)** Prerequisite(s): ACCT 2121; ACCT 2122 or ACCT 3323; ECON 2101; ECON 2102, INFO 2130; College of Business major; and Junior or Senior standing. A study of the role of manager with an emphasis on understanding the behavioral and administrative theories and concepts needed to succeed in contemporary organizations. Topics include: motivation, leadership, managing teams, and teamwork.

**MGMT 3170. Ethics and Global Capitalism. (3)** Prerequisite(s): Junior or Senior standing. A study of ethical arguments supporting and critical of capitalist economic and social systems. Topics include: property rights, justice, desert, equality, and sustainable capitalism.

**MGMT 3241. Acquiring and Maintaining Human Resources. (3)** Prerequisite(s): MGMT 3140 with grade of C or above. Concepts, methods, and issues used in effectively managing human resources in contemporary organizations with a focus on workforce planning, recruitment and selection, organizational entry, socialization, diversity, and the legal environment. Experience in developing and utilizing behavioral science research methods to assess effectiveness.

**MGMT 3242. Developing and Retaining Human Resources. (3)** Prerequisite(s): MGMT 3140 with grade of C or above. Concepts, methods, and issues used in effectively managing human resources in contemporary organizations with a focus on performance assessment, training and development, change, and performance management, compensation and benefits, and retention. Experience in developing and utilizing behavioral science research methods to assess effectiveness.

**MGMT 3243. Employment Law. (3)** Prerequisite(s): MGMT 3140 with grade of C or above. Examines the legislation which impacts human resource management practices in union and non-union settings. Topics include: fair employment practices, anti-discrimination law, representation elections, unfair labor practices, compensation and benefit legislation, privacy concerns, and dispute settlement processes.

**MGMT 3260. Managerial Communication. (3)** Prerequisite(s): MGMT 3140 and COMM 3160 with grades of C or above. Develop an understanding of the use and influence of communication skills, processes and strategies in effective managerial decision making. A practical approach is employed to develop written, oral, nonverbal, listening, team, conflict, and negotiation skills in organizational situations.

**MGMT 3274. International Business Processes and Problems. (3)** Prerequisite(s): MGMT 3140 with grade of C or above; and Management or International Business major, International Management minor, or permission of department. An introduction to the process, institutions and problems associated with exporting, importing and management of multinational businesses.

**MGMT 3275. International Business Management. (3)** Prerequisite(s): MGMT 3140 with grade of C or above; and Management, International Business, or Business Administration major, International Management minor, or permission of department. An introduction to the processes and strategies, institutions and environments, and barriers and problems with international business, as well as management of various functions (e.g., strategy, organization, HR, finance, marketing, etc.) within a multinational enterprise. Topics include: foundations for global business, the environment of international business, processes and strategies of international business, cross-cultural awareness and management implications.

**MGMT 3277. Entrepreneurship. (3)** Prerequisite(s): MGMT 3140 with C or ENTR 3276 with C; Management major or Entrepreneurship certificate. A study of the factors leading to entrepreneurial success with an emphasis on opportunity identification, structure and planning, and the management of new ventures. Provides tools necessary to understand and evaluate the entrepreneurial process within a large company, new venture, family business, or growing a small business.

**MGMT 3280. Strategic Management. (3)** Prerequisite(s): Senior standing, College of Business major (Not enrolled as Pre-Accounting, Pre-Business, or Pre-Economics); BLAW 3150, COMM 3160, ECON 3125, FINN 3120, INFO 3130, MGMT 3140, MKTG 3110, and OPER 3100 and earn a grade of C or better. (Accounting majors are required to take BLAW 3150, COMM 3160, FINN 3120, INFO 3130, MGMT 3140, MKTG 3110, and OPER 3100 and earn a grade of C or better.) A capstone course that emphasizes the synthesis and application of concepts from the functional business courses so students develop an understanding of organizations from the perspective of top level executives. Focuses on the role of top management in leading, planning, and decision-making to form effective organizational strategies that integrate internal processes and the economic, technological, ethical, political, and social forces affecting the organization.

**MGMT 3282. Managerial Ethics. (3)** Prerequisite(s): MGMT 3140 with grade of C or above; Management or Business Administration major. A study of the impact of management decisions on customers, employees, creditors, shareholders, community interests, ecology, and government (including taxes and the regulatory environment). The objective is to provide future managers with a systematic way of analyzing the impact of management decisions on larger society.

**MGMT 3287. Managerial Leadership. (3)** Prerequisite(s): MGMT 3140 with a grade of C or above; and Senior standing. A capstone course for the management major that provides a managerial perspective on leadership in formal organizations. Emphasis is placed on team-building, exercising influence, decision-making, and conflict management. Pedagogical tools to be used include role playing, case analyses, self-

assessment of leadership competencies, and shadowing of working managers.

**MGMT 3400. Management Internship. (3)** Prerequisite(s): Junior or Senior standing; Management major in good standing; and permission of instructor. Provides a meaningful work experience in the field of management. Requires a minimum of 150 hours of supervised employment, 50 hours of work per credit hour. Student is responsible for securing internship and completing internship application and approval process prior to registering for the course. Internship must be approved by instructor. Application process and course registration must be completed prior to beginning internship. All proposals are subject to departmental approval. Students may not earn internship credit for work at a current employer. May be used to meet requirements of a major elective, up to a maximum of three credit hours. Cannot be taken for credit at the same time or following any other internship for credit. *May not be repeated for credit. Graded on a Pass/No Credit basis.*

**MGMT 3500. Management Cooperative Education Experience. (0)** Prerequisite(s): Management major. Enrollment in this course is required for the department's cooperative education students during each semester they are working in a position. Participating students pay a course registration fee for transcript notation. Assignments must be arranged and approved in advance. The Cooperative Education Program is only open to undergraduate students; graduate level students are encouraged to contact their academic departments to inquire about academic or industrial internship options for credit. For more information, contact the University Career Center. *Course may be repeated. Graded on a Satisfactory/Unsatisfactory basis.*

**MGMT 3800. Directed Study. (1 to 6)** Prerequisite(s): Permission of department chair and Junior or Senior standing. Enrollment granted only by permission of the faculty with whom the work is performed. The student's work assignments are designed by the student and faculty member who oversee the project of study. Credit hours are determined prior to enrollment and are based on the particular project undertaken.

**MGMT 4300. Entrepreneurial Decisions. (3)** Cross-listed Course(s): MBAD 5300. Prerequisite(s): Junior or Senior standing. Entrepreneurial decisions are the key dilemmas and debates faced by entrepreneurs. Students learn about the key decisions that real entrepreneurs face in operating their ventures. A dilemma is "an argument presenting two or more equally conclusive alternatives; a choice or a situation involving choice between equally unsatisfactory alternatives; a problem seemingly incapable of a satisfactory solution." The process of entrepreneurship involves the recognition of challenges and dilemmas, vigorous debate, and ultimately, solutions. No solution lasts long in an entrepreneurial milieu whose underpinning is "creative destruction."

# Marketing (MKTG)

**MKTG 3000. Topics in Marketing. (3)** Prerequisite(s): MKTG 3110 with grade of C or above, or permission of department chair. Topics from the area of marketing. *May be repeated for credit with change of topic.*

**MKTG 3110. Principles of Marketing. (3)** Prerequisite(s): ACCT 2121; ACCT 2122 or ACCT 3323; ECON 2101; ECON 2102; INFO 2130; MATH 1120; and STAT 1220 with grades of C or above; and Junior or Senior standing. Designed to acquaint the student with the marketing concept, various aspects of the marketing-external environment interface, and interrelatedness with other functional areas. Provides marketing majors with a foundation for further study, while offering non-marketing majors a survey of marketing's function in business organizations.

**MKTG 3210. Consumer Behavior. (3)** Prerequisite(s): Marketing major MKTG 3110 with grade of C or above. Businesses spend an enormous amount of time, money, and other resources on monitoring, predicting, understanding, and influencing the behavior of consumers. Their success depends on convincing consumers to use their products and services rather than competitors' offerings. This course provides a contemporary, strategic approach to consumer behavior. Throughout the course, students examine examples of how key concepts and theories can be applied to company, brand, and organizational decisions. There is a heavy emphasis on application through assignments and in-class exercises. Students learn how marketing managers use their research-based knowledge to reach consumers more efficiently and to create more effective positioning and branding strategies. Credit will not be given for both MKTG 3210 and MKTG 3221.

**MKTG 3219. AI in Marketing. (3)** Prerequisite(s): MKTG 3110 with grade of C or above; Marketing Major. A comprehensive overview of AI in marketing, covering its definition, historical evolution, and key differences from traditional software. It explores how AI has transformed marketing through personalization, predictive analysis, and chatbots while addressing its limitations and ethical considerations. Additionally, it delves into the technical aspects of AI, including machine learning and deep learning, and discusses the competitive landscape and barriers to AI adoption in marketing.

**MKTG 3220. Digital Marketing and Web Analytics. (3)** Prerequisite(s): Marketing or Business Administration major and MKTG 3110 with grade of C or above. With technological advances, it is essential and imperative to understand the capabilities of the most commonly used analytical tools in order to make informed decisions. This course covers important techniques in marketing analytics with a focus on marketing analytics applications. It is structured to analyze data through case studies and hands-on exercises either as homework/assignments or in-class exercises. Key concepts are learned from a variety of activities including lectures, class discussions of assigned cases, individual exercises, and a team project. This course is useful for students who are interested in learning analytical techniques with an emphasis on digital marketing.

**MKTG 3222. Marketing Research. (3)** Prerequisite(s): Marketing major and MKTG 3110 with grade of C or above. An applications course that covers the entire research process, including problem identification, secondary and primary data collection, scaling techniques, survey questionnaire design, reliability and validity, experimental design, sampling, data analysis, and data communication.

**MKTG 3224. Product and Brand Management. (3)** Prerequisite(s): Marketing major and MKTG 3110 with grade of C or above. Emphasis on branding, brand management, and brand equity. Covers measurement of brand equity sources and outcomes. Particular focus on designing brand strategies, introducing and naming new products and extensions, and the new product development process.

**MKTG 3225. Integrated Marketing Communications. (3)** Prerequisite(s): Marketing major and MKTG 3110 with grade of C or

above. Examines all areas of marketing promotion, including such topics as advertising, media selection, digital marketing, social media, packaging and sales promotion. Provides the framework to be successful in various marketing careers.

**MKTG 3226. Business-to-Business Marketing and Retailing. (3)** Prerequisite(s): Marketing, Finance, or International Business major, or International Management minor; and MKTG 3110 with grade of C or above. An overview of skills and knowledge involved in individual selling and management of sales programs, including sales management theories and their applications. Emphasis on both buyer and seller negotiation techniques.

**MKTG 3228. Marketing Analytics. (3)** Prerequisite(s): Marketing, Accounting, Finance, or Business Analytics major; and MKTG 3110 with grade of C or above. Emphasis on analyzing interactions of consumers, firms, and society. Focus on interpreting results. Particular emphasis on analyzing data related to market response, customer segmentation, customer targeting, brand positioning, and pricing and promotion decisions.

**MKTG 3230. Social Media/Mobile Marketing and Analytics. (3)** Prerequisite(s): Marketing major and MKTG 3110 with grade of C or above. Emphasis on using social and mobile mediums for marketing purposes. Particular focus on key performance indicators, developing and implementing social media plans, marketing applications of mobile phenomena, and analytics for optimizing performance in each medium.

**MKTG 3231. Global Marketing Management. (3)** Prerequisite(s): MKTG 3110 with grade of C or above; and Marketing major, International Business major, or International Management minor. Building on the fundamentals of marketing, this course introduces the context of the global environment. The cultural, social, legal, political, financial and geographic dimensions of the global marketplace are examined. Using primarily qualitative methods, the impact and integration of global factors in marketing strategies is assessed.

**MKTG 3250. Marketing Strategy Consultancy. (3)** Prerequisite(s): Marketing major, Senior standing; MKTG 3110 with a grade of C or better and completion of at least two additional marketing courses prior to this course and a third marketing course either prior or in conjunction with this course. All prior courses must be completed with grades of C or above. Integration of all marketing elements in a strategic planning framework. Emphasis on areas of strategic importance, especially those which have significant implications and relevance for marketing policy decisions in competitive situations.

**MKTG 3400. Marketing Internship. (3)** Prerequisite(s): Junior or Senior standing; Marketing major in good standing; MKTG 3110 with grade of C or above; and permission of instructor. Provides a meaningful work experience in the field of marketing. Requires a minimum of 150 hours of supervised employment, 50 hours of work per credit hour. Student is responsible for securing internship and completing internship application and approval process prior to registering for the course. Internship must be approved by instructor. Application process and course registration must be completed prior to beginning internship. All proposals are subject to departmental approval. Students may not earn internship credit for work at a current employer. May be used to meet requirements of a major elective, up to a maximum of three credit hours. *Graded on a Pass/No Credit basis. May not be repeated for credit or taken for credit at the same time or following any other internship for credit.*

**MKTG 3500. Marketing Cooperative Education Experience. (0)** Prerequisite(s): Marketing major. Enrollment in this course is required for the department's cooperative education students during each semester they are working in a position. Participating students pay a course registration fee for transcript notation. Assignments must be arranged and approved in advance. The Cooperative Education Program is only open to undergraduate students; graduate level students are encouraged to contact their academic departments to inquire about academic or industrial internship options for credit. For more information, contact the University Career Center. *Course may be repeated. Graded on a Satisfactory/Unsatisfactory basis.*

**MKTG 3800. Directed Study. (1 to 3)** Prerequisite(s): Permission of department and Junior or Senior standing. Enrollment granted only by permission of the faculty with whom the work will be performed. The student's work assignments will be designed by the student and faculty member who will oversee the project of study. The credit hours will be determined prior to enrollment and will be based on the particular project undertaken. The proposal must be approved by the department chair.

# Military Science (MSCI)

**MSCI 1000. Physical Fitness. (1)** Prerequisite(s): Students must be able to participate in normal college physical education program and must obtain a physician's signature or a "Medical Fitness Statement" provided by the Department of Military Science at the beginning of the semester. Military Fitness provides a program focused on muscular strength, muscular endurance, and aerobic endurance. The weekly classes provide students with opportunities for strenuous physical activity and also serve as examples of exercise routines that students can adopt as personal workout plans. The course provides a basic understanding of Army Physical Training and improves upon the leadership dynamic of participants. Progress is graded using the Army Physical Fitness Test (APFT) and leadership traits.

**MSCI 1101. Leadership and Personal Development. (1)** Corequisite(s): MSCI 1101L. Introduces students to the personal challenges and competencies that are critical for effective leadership. Students learn how the personal development of life skills such as cultural understanding, goal setting, time management, mental resiliency, physical fitness, and stress management relate to leadership and the Army profession. Includes instruction in map reading, land navigation, and customs and courtesies of the Army. Participation in leadership lab is required. There is no military obligation to take this course; open to all UNC Charlotte and CAEC consortium students.

**MSCI 1101L. Leadership and Personal Development Lab. (1)** Corequisite(s): MSCI 1101. Students learn the basic fundamentals in being a member of a team. This is taught through multiple venues, including drill and ceremony, land navigation, weapons familiarization, basic rifle marksmanship, medical tasks, individual movement techniques, engaging targets, understanding Army acronyms, hand and arm signals, reactive leadership, and radio protocol procedures. Freshmen learn basic leadership skills and master the fundamentals of being a follower.

**MSCI 1102. Introduction to Leadership. (1)** Corequisite(s): MSCI 1102L. Overview of leadership fundamentals such as setting direction, the profession of arms, listening, presenting briefs, providing feedback, and using effective writing skills. Students explore dimensions of leadership attributes and core leader competencies in the context of practical, hands-on, and interactive exercises. Cadets who are contracted or conditionally contracted by the end of their Freshman year may be required to attend Cadet Initial Entry Training (CIET) at Fort Knox, KY, during the summer. Participation in leadership lab is required. There is no military obligation to take this course; open to all UNC Charlotte and CAEC consortium students.

**MSCI 1102L. Introduction to Leadership Lab. (1)** Corequisite(s): MSCI 1102. Students learn the basic fundamentals in being a member of a team. This is taught through multiple venues including drill and ceremony, land navigation, weapons familiarization, basic rifle marksmanship, medical tasks, individual movement techniques, engaging targets, introduction to the orders process, understanding Army acronyms, hand and arm signals, basic military tactics, and radio protocol procedures. Freshmen learn basic leadership skills and master the fundamentals of being a follower.

**MSCI 2101. Innovative Team Leadership. (2)** Corequisite(s): MSCI 2101L. Explores the dimensions of creative and innovative tactical leadership strategies and styles by examining team dynamics and historical leadership theories that form the basis of the Army leadership framework. Students practice aspects of personal motivation and team building in the context of planning, executing, and assessing team exercises and participating in leadership labs. Includes instruction in troop leading procedures, tactical movement, squad level operations, battle drills, and problem solving. Participation in leadership lab is required. There is no military obligation to take this course; open to all UNC Charlotte and CAEC consortium students.

**MSCI 2101L. Innovative Team Leadership Lab. (1)** Corequisite(s): MSCI 2101. Students become proficient in the basic fundamentals and are introduced to leading a small team. This is taught through multiple venues including advanced land navigation, survival skills, building terrain models, medical skills, movement formations, movement techniques, special teams, writing operations orders, situation reporting, call for fire, and introduction to battle drills. Sophomores focus on mentoring freshmen and serve as team leaders.

**MSCI 2102. Foundations of Tactical Leadership. (2)** Corequisite(s): MSCI 2102L. Examines the challenges of leading teams in the complex operational environment. The course highlights dimensions of terrain analysis, patrolling, route planning, and operations orders. Further study of the Army Leadership Requirements Model explores the dynamics of adaptive leadership in the context of military operations. Participation in leadership lab is required. There is no military obligation to take this course; open to all UNC Charlotte and CAEC consortium students.

**MSCI 2102L. Foundations of Tactical Leadership Lab. (1)** Corequisite(s): MSCI 2102. Students become proficient in the basic fundamentals and are introduced to leading a squad-based element. This is taught through multiple venues including advanced land navigation, building terrain models, advanced rifle marksmanship, medical skills, movement formations, movement techniques, special teams, writing operations orders, situation reporting, call for fire, and introduction to battle drills. Sophomores focus on mentoring freshmen and serve as team leaders.

**MSCI 3000. Evolution of American Warfare. (3)** An historical overview of the American Military Experience and an understanding of military principles, strategy, and tactics since the 17th century. Staff ride(s) and systematic battlefield analysis exercises provide examples of the evolution of strategy, tactics, and military technology. These examples provide a foundation for lessons in leadership that students can use in their future military career.

**MSCI 3101. Adaptive Team Leadership. (3)** Prerequisite(s): Basic Course credit. Corequisite(s): MSCI 3101L. Academically challenging course where Cadets study, practice, and apply the fundamentals of Army leadership, Army values and ethics, personal development, and small unit tactics at the squad level. At the conclusion of this course, cadets will be capable of planning, coordinating, navigating, motivating and leading a 9-person squad in the execution of a tactical mission during a classroom practical exercise, a leadership lab, or during a situational training exercise (STX) in a field environment. Successful completion of this course helps prepare cadets for success at the ROTC Cadet Leader Course (CLC) which they attend the following summer at Fort Knox, KY. Cadets receive systematic and specific feedback on their leader attributes, values and core leader competencies from their instructor, other ROTC cadre, and MSIV Cadets who evaluate them using the ROTC leader development program (LDP) model. Cadets will be tasked with managing the training of MS II cadets based on direction from MS IV cadets. Course includes instruction in squad operations, problem solving, and combat orders. Participation in leadership lab is required.

**MSCI 3101L. Adaptive Team Leadership Lab. (1)** Corequisite(s): MSCI 3101. Challenging scenarios related to small-unit tactical operations are used to develop self-awareness and critical thinking skills. The cadet will receive systematic and specific feedback on leadership abilities. Cadets at this level serve as the Non-Commissioned Officer (NCO) Corps of the ROTC Battalion; they plan, rehearse, and lead basic course cadets through the program of instruction. Juniors are the executors of the battalion. Cadets also work on skills that help them succeed at CLC. Those skills include Land Navigation and Squad Level Leadership Tactics.

**MSCI 3102. Applied Team Leadership. (3)** Prerequisite(s): MSCI 3101. Corequisite(s): MSCI 3102L. A continuation of MSCI 3101, where Cadets study, practice, and apply the fundamentals of Army leadership, Army values and ethics, personal development, and small unit tactics at the patrol/platoon level. At the conclusion of this course, cadets will be capable of planning, coordinating, navigating, motivating and leading a 24-person patrol in the execution of a tactical mission during a classroom practical exercise, a leadership lab, or during a situational training exercise (STX) in a field environment. Successful completion of this course helps prepare cadets for success at the ROTC Cadet Leader Course (CLC) which they attend the following summer at Fort Knox, KY. Cadets receive systematic and specific feedback on your leader attributes, values and core leader competencies from their instructor, other ROTC cadre, and MSIV Cadets who evaluate them using the ROTC leader development program (LDP) model. Course includes instruction in platoon operations, stability and support operations, and garrison orders. Participation in leadership lab is required.

**MSCI 3102L. Applied Team Leadership Lab. (1)** Corequisite(s): MSCI 3102. Specific instruction is given in individual leader development,

planning and execution of small-unit operations, individual and team development, and the Army as a career choice. Prepares cadets for the mandatory 32-day Cadet Leader Course (CLC) at Fort Knox, KY, during the summer between their Junior and Senior academic years.

**MSCI 4101. Developing Adaptive Leaders. (3)** Prerequisite(s): MSCI 3101 and MSCI 3102. Corequisite(s): MSCI 4101L. Cadets explore the dynamics of leading in the complex situations of current military operations. They examine differences in customs and courtesies, military law, principles of war, and rules of engagement in the face of international terrorism. They also explore aspects of interacting with non-government organizations, civilians on the battlefield, the decision making processes and host nation support. Participation in leadership lab is required. Mandatory for all Senior ROTC cadets.

**MSCI 4101L. Developing Adaptive Leaders Lab. (1)** Corequisite(s): MSCI 4101. Cadets lead cadets at lower levels. Leadership experiences are designed to prepare them for their first military unit of assignment. Identify responsibilities of key staff members, coordinate staff roles amongst twelve separate universities and colleges that make up the ROTC battalion, and use battalion field/garrison situations to teach, train, and develop subordinates. Seniors are the battalion's staff, primary supervisors and planners, preparing to transition to Second Lieutenants.

**MSCI 4102. Leadership in a Complex World. (3)** Prerequisite(s): MSCI 4101. Corequisite(s): MSCI 4102L. Cadets identify the leaders roles and responsibilities for enforcing Army policies and programs. Also covers how to manage Comprehensive Solider Fitness (CSF). Cadets also explore the dynamics of building a team prepared to handle any future operational environment and win, as well as examine the importance of understanding culture and how it affects the overall mission. Cadets develop both oral and written communication skills by conducting a battle analysis and decision briefs. Participation in leadership lab is required. Mandatory for all Senior ROTC cadets.

**MSCI 4102L. Leadership in a Complex World Lab. (1)** Corequisite(s): MSCI 4102. A continuation of responsibilities listed in MSCI 4101L. The leadership lab uses case studies, scenarios, and tactical vignettes to prepare cadets to face the complex ethical and practical demands of leading as a commissioned officer in the United States Army.

**MSCI 4800. Operational Planning, Independent Study. (1)** Provides students with customized coursework specific to a doctrinal area of focus within the United States Army. As a future Army Officer, Cadets are required to develop and refine their planning abilities; specifically, they must possess the capabilities to define mission parameters, forecast logistical requirements, anticipate contingencies, effectively delegate sub-tasks appropriately, and then supervise every phase of a given mission from planning, to execution, to completion. Many of the intricacies of this process are unique to various functional areas throughout the United States Army. Students are assigned theoretical mission planning exercises based on historic vignettes, which are specific to the branch or functional area for which they will be assigned (or have the greatest interest in), upon commissioning as an Officer in the United States Army.

# Music Education (MUED)

**MUED 2100. Introduction to Music Education. (2)** Introduction to the organization and various types/levels of music education. Overview of historical, ethical, legal, and instructional issues related to music education and diversity in the classroom. A minimum of five hours of community service is required.

**MUED 2200. Foundations of Music Education. (2)** Prerequisite(s): MUED 2100. Examination of the social, historical, legal, and philosophical foundations of music education, major issues in American education as they relate to music education research, classroom diversity issues, and instructional planning. Clinical experiences required.

**MUED 2241. Music Development and Learning. (2)** Prerequisite(s): MUED 2200. Introduction to human developmental learning theories and the psychology of music as they relate to teaching music in public schools. Topics include research-based perspectives of: 1) education developmental learning theories; 2) musical learning; 3) teaching musical skills; and 4) musical roles. Clinical experiences in various levels and music education settings (general music, band, choir, and/or orchestra) required.

**MUED 3101. Technology for Music Educators. (1)** Prerequisite(s): Music education major, permission of department. Prepares future music teachers to effectively integrate technology into the K-12 music teaching and learning environment. Covers the standard applications of music technology, including general computing processes, digital audio, MIDI, music notation, and computer-aided instruction. Requirements include a project focused on music and culture outside of the classical music canon.

**MUED 3270. Teaching Discipline: Assessment and Behavior in the Music Classroom. (2)** Prerequisite(s): MUSC 2400. Students develop specific quantitative and qualitative methods that address unique discipline, teaching, and assessment concerns inherent in a music classroom with typical and diverse populations of students. Clinical experiences observing and working with students in a low-performing school setting required.

**MUED 4190. Choral Methods. (2)** Prerequisite(s): MUSC 2400 and MUSC 3135. Corequisite(s): MUED 4190L. The development of advanced planning and rehearsal techniques, choral pedagogy, selecting and teaching developmentally appropriate diverse repertoire, and administering secondary public school choral programs.

**MUED 4190L. Choral Methods Lab. (1)** Prerequisite(s): MUSC 2400. Corequisite(s): MUED 4190. Application of content from MUED 4190 with choral ensembles. Clinical experiences required. *May be repeated for credit.*

**MUED 4192. General Music Methods.** (2) Prerequisite(s): MUSC 2400. Corequisite(s): MUED 4192L. General music methods and materials for elementary grades through high school. Primarily focused on elementary school general music but extends into teaching general music and non-performance based music courses in grades 6 through 12. Topics include current school music theories, diverse song literature for teaching, and approaches to general music teaching with diverse and differently-abled learners.

**MUED 4192L. General Music Methods Lab. (1)** Prerequisite(s): MUSC 2400. Corequisite(s): MUED 4192. Clinical application of content from MUED 4192 with an on-campus lab ensemble and through clinical hours in a K-12 school setting.

**MUED 4194. Instrumental Methods. (2)** Prerequisite(s): MUSC 1223, MUSC 1225, MUSC 1227, MUSC 1229, MUSC 2400, and MUSC 3136. Corequisite(s): MUED 4194L. Development of advanced planning and rehearsal techniques, instrumental pedagogy, selecting and teaching developmentally appropriate diverse repertoire, and administering public school instrumental music programs.

**MUED 4194L. Instrumental Methods Lab. (1)** Pre- or Corequisite(s): Four semesters of MUPF 1117. Corequisite(s): MUED 4194. Clinical application of content from MUED 4194 with an on-campus lab ensemble and public school instrumental ensembles. Clinical experiences required.

**MUED 4467. Student Teaching/Seminar: K-12 Music. (12)** Prerequisite(s): Approved application for student teaching. Student teaching is a planned sequence of teaching experiences in the student's area of specialization conducted in an approved school setting under a Faculty Site Coordinator and a clinical educator. During student teaching, the student must demonstrate the competencies identified for their specific teaching field in an appropriate grade-level setting. The student is assigned 16 weeks in a school setting. Includes seminars and required professional development. Participating students pay a course registration fee for edTPA portfolio assessment. *Graded on a Pass/No Credit basis.*

## Music Performance (MUPF)

**MUPF 1110. Orchestra. (1)** Prerequisite(s): Advanced string, wind, and percussion players from any major by audition or permission of instructor. An orchestral ensemble performing music from across the chamber, symphonic, choral, and operatic repertoires. Performs standard orchestral works from the Baroque Period through the present. *May be repeated for credit.*

**MUPF 1111. Jazz Ensemble. (1)** Prerequisite(s): Audition. An ensemble specializing in performance and study of music composed for standard "big band" instrumentation. Performs music styles from the Swing era to present day. *May be repeated for credit.*

**MUPF 1111L. Jazz Ensemble Sectional Rehearsals. (0)** Corequisite(s): MUPF 1111. Sectional rehearsals for MUPF 1111. *May be repeated for credit.*

**MUPF 1112. Wind Ensemble. (1)** Prerequisite(s): Audition. A performing ensemble open to advanced wind and percussion players from any major. Performs traditional and contemporary band literature in concerts a minimum of twice per semester. Occasional concert tours and performances for important regional music events. *May be repeated for credit.*

**MUPF 1112L. Wind Ensemble Sectional Rehearsals. (0)** Corequisite(s): MUPF 1112. Sectional rehearsals for MUPF 1112. *May be repeated for credit.*

**MUPF 1113. Symphonic Band. (1)** A performing ensemble open to students from any major with experience playing wind and percussion instruments. No formal audition required, only a simple hearing to determine chair placement. Performs traditional and contemporary band literature in one concert each semester. *May be repeated for credit.*

**MUPF 1114. Basketball Band. (1)** Prerequisite(s): Permission of instructor. A performing ensemble for University athletic contests and other campus events. *May be repeated for credit.*

**MUPF 1115. Guitar Ensemble. (1)** Prerequisite(s): Permission of instructor. A performing ensemble. *May be repeated for credit.*

**MUPF 1117. Instrumental Lab Ensemble. (0)** Students meet to create a beginning band or orchestra for the purposes of rehearsing on a secondary instrument in an ensemble format. This format also allows student conductors in instrumental conducting and methods the opportunity to rehearse and conduct a novice ensemble. *Graded on a Pass/No Credit basis. May be repeated.* Four semesters of MUPF 1117 are required for the B.M. with Concentration in Instrumental/General Music Education.

**MUPF 1118. Marching Band. (1)** Weekly rehearsals and performances at football games and other university/community events. Pre-season camp and performances outside of class are required. *May be repeated for credit.*

**MUPF 1119. Special Instrumental Ensemble. (1)** Prerequisite(s): Acceptance as a Music major and permission of instructor. An alternative to traditional ensembles listed above for students with specialized performance interests. *May be repeated for credit.*

**MUPF 1120. University Chorale. (1)** Prerequisite(s): Audition. A mixed chorus that performs music of many styles from the Baroque period to the present. The enrollment ranges from 46 to 58 voices. Open to all UNC Charlotte students with extensive choral experience. *May be repeated for credit.*

**MUPF 1120L. University Chorale Sectional Rehearsals. (0)** Corequisite(s): MUPF 1120. Sectional rehearsals for MUPF 1120. *May be repeated for credit.*

**MUPF 1122. Men's Chorus (Mallard Creek Chorale). (1)** The Mallard Creek Chorale draws upon majors from across campus and performs several times each semester, including occasionally performing off campus and at athletic events. The ensemble performs folk, spirituals, Broadway, patriotic, barbershop, du-wop, and other musical styles traditional for men's choruses. This ensemble is open to all male UNC Charlotte students with an interest in singing. Special emphasis is placed on building vocal technique and sight singing ability. *May be repeated for credit.*

**MUPF 1123. Women's Chorus (Charlotteans). (1)** The Charlotteans is open to all female UNC Charlotte students with an interest in singing. This ensemble performs a vast array of music from Renaissance through contemporary composers. Emphasis is placed on building vocal technique and sight singing ability. *May be repeated for credit.*

**MUPF 1124. Opera Workshop. (1)** Prerequisite(s): audition. Performance of scenes, acts, and entire operas. *May be repeated for credit.*

**MUPF 1125. Gospel Choir. (1)** A performing ensemble that focuses on the gospel choir repertoire. *May be repeated for credit.*

**MUPF 1128. Special Vocal Ensemble. (1)** Prerequisite(s): acceptance as a Music major and permission of instructor. An alternative to the traditional ensembles listed above for students with specialized experience. Enrollment restricted to Music majors. *May be repeated for credit.*

**MUPF 1132. Wind Quintet. (1)** Prerequisite(s): Permission of instructor. A performing ensemble that focuses on the wind quintet repertoire. *May be repeated for credit.*

**MUPF 1134. Flute Choir. (1)** Prerequisite(s): Permission of instructor. A performing ensemble that focuses on the flute choir repertoire. *May be repeated for credit.*

**MUPF 1136. Clarinet Choir. (1)** Prerequisite(s): Permission of instructor. A performing ensemble that focuses on the clarinet choir repertoire. *May be repeated for credit.*

**MUPF 1137. Saxophone Quartet. (1)** Prerequisite(s): Permission of instructor. A performing ensemble that focuses on the saxophone quartet repertoire. *May be repeated for credit.*

**MUPF 1139. Woodwind Chamber Music. (1)** Prerequisite(s): Permission of instructor. A performing ensemble that focuses on the woodwind chamber music repertoire. *May be repeated for credit.*

**MUPF 1142. Brass Quintet. (1)** Prerequisite(s): Permission of instructor. A performing ensemble that focuses on the brass quintet repertoire. *May be repeated for credit.*

**MUPF 1143. Trumpet Ensemble. (1)** Prerequisite(s): Permission of instructor. A performing ensemble that focuses on the trumpet ensemble repertoire. *May be repeated for credit.*

**MUPF 1144. Horn Ensemble. (1)** Prerequisite(s): Permission of instructor. A performing ensemble that focuses on the horn ensemble repertoire. *May be repeated for credit.*

**MUPF 1146. Tuba/Euphonium Ensemble. (1)** Prerequisite(s): Permission of instructor. A performing ensemble that focuses on the tuba/euphonium repertoire. *May be repeated for credit.*

**MUPF 1149. Brass Chamber Music. (1)** Prerequisite(s): Permission of instructor. A performing ensemble that focuses on the brass chamber music repertoire. *May be repeated for credit.*

**MUPF 1151. Percussion Ensemble. (1)** Prerequisite(s): Permission of instructor. A performing ensemble that focuses on the percussion ensemble repertoire. *May be repeated for credit.*

**MUPF 1153. Group Percussion Ensemble. (1)** Prerequisite(s): Admission to the music major. Corequisite(s): MUPF 1281 or MUPF 1282, or permission of instructor. A performance-based class focusing on a variety of musical styles and genres realized using percussion. This course develops various techniques required for performing a diverse range of percussion musics. *May be repeated for credit if performing different repertoire.*

**MUPF 1155. Piano Ensemble. (1)** Prerequisite(s): Permission of instructor. A performing ensemble that focuses on the piano ensemble repertoire. *May be repeated for credit.*

**MUPF 1168. Philharmonia. (1)** A performing ensemble open to string players from any major. Performs string orchestra repertoire from the Baroque period through the present. Emphasis is placed on developing techniques and sight-reading ability. *May be repeated for credit.*

**MUPF 1169. String Chamber Music. (1)** Prerequisite(s): Permission of instructor. A performing ensemble that focuses on the string chamber music repertoire. *May be repeated for credit.*

**MUPF 1170. Jazz Combo. (1)** Prerequisite(s): Permission of instructor. A small performing ensemble that focuses on jazz repertoire and improvisation. *May be repeated for credit.*

**MUPF 1240. Applied Music: Euphonium. (1 to 2) P**rerequisite(s): Acceptance as a Music major or minor, or permission of instructor. Corequisite(s): MUSC 1300 and an approved principal ensemble. Private instruction, a half-hour lesson per week per credit hour, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 1241. Applied Music: Trumpet. (1 to 2) P**rerequisite(s): Acceptance as a Music major or minor, or permission of instructor. Corequisite(s): MUSC 1300 and an approved principal ensemble. Private instruction, a half-hour lesson per week per credit hour, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 1242. Applied Music: French Horn. (1 to 2) P**rerequisite(s): Acceptance as a Music major or minor, or permission of instructor. Corequisite(s): MUSC 1300 and an approved principal ensemble. Private instruction, a half-hour lesson per week per credit hour, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 1243. Applied Music: Trombone. (1 to 2) P**rerequisite(s): Acceptance as a Music major or minor, or permission of instructor. Corequisite(s): MUSC 1300 and an approved principal ensemble. Private instruction, a half-hour lesson per week per credit hour, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 1244. Applied Music: Tuba. (1 to 2) P**rerequisite(s): Acceptance as a Music major or minor, or permission of instructor. Corequisite(s): MUSC 1300 and an approved principal ensemble. Private instruction, a half-hour lesson per week per credit hour, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 1245. Applied Music: Guitar. (1 to 2) P**rerequisite(s): Acceptance as a Music major or minor, or permission of instructor. Corequisite(s): MUSC 1300 and an approved principal ensemble. Private instruction, a half-hour lesson per week per credit hour, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 1246. Applied Music: Harp. (1 to 2) P**rerequisite(s): Acceptance as a Music major or minor, or permission of instructor. Corequisite(s):

MUSC 1300 and an approved principal ensemble. Private instruction, a half-hour lesson per week per credit hour, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 1247. Applied Music: Organ. (1 to 2)** Prerequisite(s): Acceptance as a Music major or minor, or permission of instructor. Corequisite(s): MUSC 1300 and an approved principal ensemble. Private instruction, a half-hour lesson per week per credit hour, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 1248. Applied Music: Piano. (1 to 2)** Prerequisite(s): Acceptance as a Music major or minor, or permission of instructor. Corequisite(s): MUSC 1300 and an approved principal ensemble. Private instruction, a half-hour lesson per week per credit hour, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 1249. Applied Music: Violin. (1 to 2)** Prerequisite(s): Acceptance as a Music major or minor, or permission of instructor. Corequisite(s): MUSC 1300 and an approved principal ensemble. Private instruction, a half-hour lesson per week per credit hour, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 1250. Applied Music: Viola. (1 to 2)** Prerequisite(s): Acceptance as a Music major or minor, or permission of instructor. Corequisite(s): MUSC 1300 and an approved principal ensemble. Private instruction, a half-hour lesson per week per credit hour, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 1251. Applied Music: Cello. (1 to 2)** Prerequisite(s): Acceptance as a Music major or minor, or permission of instructor. Corequisite(s): MUSC 1300 and an approved principal ensemble. Private instruction, a half-hour lesson per week per credit hour, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 1252. Applied Music: Bass. (1 to 2)** Prerequisite(s): Acceptance as a Music major or minor, or permission of instructor. Corequisite(s): MUSC 1300 and an approved principal ensemble. Private instruction, a half-hour lesson per week per credit hour, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 1253. Applied Music: Voice. (1 to 2)** Prerequisite(s): Acceptance as a Music major or minor, or permission of instructor. Corequisite(s): MUSC 1300 and an approved principal ensemble. Private instruction, a half-hour lesson per week per credit hour, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 1256. Applied Music: Saxophone. (1 to 2)** Prerequisite(s): Acceptance as a Music major or minor, or permission of instructor. Corequisite(s): MUSC 1300 and an approved principal ensemble. Private instruction, a half-hour lesson per week per credit hour, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 1259. Applied Music: Percussion. (1 to 2)** Prerequisite(s): Acceptance as a Music major or minor, or permission of instructor. Corequisite(s): MUSC 1300 and an approved principal ensemble. Private instruction, a half-hour lesson per week per credit hour, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 1260. Applied Music: Jazz Saxophone. (1)** Prerequisite(s): Acceptance as a Music major or permission of instructor. Corequisite(s): An approved principal ensemble. Private instruction in jazz, a half-hour lesson per week, or an hour lesson every two weeks, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 1261. Applied Music: Jazz Trumpet. (1)** Prerequisite(s): Acceptance as a Music major or permission of instructor. Corequisite(s): An approved principal ensemble. Private instruction in jazz, a half-hour lesson per week, or an hour lesson every two weeks, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 1262. Applied Music: Jazz Trombone. (1)** Prerequisite(s): Acceptance as a Music major or permission of instructor. Corequisite(s): An approved principal ensemble. Private instruction in jazz, a half-hour lesson per week, or an hour lesson every two weeks, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 1263. Applied Music: Jazz Guitar. (1)** Prerequisite(s): Acceptance as a Music major or permission of instructor. Corequisite(s): An approved principal ensemble. Private instruction in jazz, a half-hour lesson per week, or an hour lesson every two weeks, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 1264. Applied Music: Jazz Piano. (1)** Prerequisite(s): Acceptance as a Music major or permission of instructor. Corequisite(s): An approved principal ensemble. Private instruction in jazz, a half-hour lesson per week, or an hour lesson every two weeks, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 1265. Applied Music: Jazz Bass. (1)** Prerequisite(s): Acceptance as a Music major or permission of instructor. Corequisite(s): An approved principal ensemble. Private instruction in jazz, a half-hour lesson per week, or an hour lesson every two weeks, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 1266. Applied Music: Jazz Percussion. (1)** Prerequisite(s): Acceptance as a Music major or permission of instructor. Corequisite(s): An approved principal ensemble. Private instruction in jazz, a half-hour lesson per week, or an hour lesson every two weeks, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 1270. Applied Music: Musical Theatre. (1)** Prerequisite(s): Enrollment in Certificate in Music Theatre or permission of instructor. Corequisite(s): COAA 3350. Private musical theatre instruction -- a half-hour lesson per week or a one-hour lesson every two weeks -- leading to formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 1283. Introduction to Piano Keyboard. (1)** Prerequisite(s):; Admission to the music major. Corequisite(s): MUPF 1155. Introduction to foundational piano/keyboard performance skills; taught in a group setting.

**MUPF 1284. Piano Keyboard. (1)** Prerequisite(s): MUPF 1283 with a grade of "C" or above, or permission of instructor; Admission to the music major. Corequisite(s): MUPF 1155. Further development of foundational piano/keyboard performance skills; taught in a group setting. *May be repeated for credit if performing different repertoire.*

**MUPF 1285. Introduction to Guitars. (1)** Corequisite(s): MUPF 1115. An introduction to guitar. Learning by ear and from music notation. Includes a wide variety of musical styles and introductory music theory as it relates to the instrument.

**MUPF 1286. Guitars. (1)** Prerequisite(s): MUPF 1285 with a grade of "C" or above, or permission of instructor; Admission to the music major. Corequisite(s): MUPF 1115. Further development of guitar techniques taught as a foundation for performance in both classical and non-classical styles; taught in a group setting. *May be repeated for credit if performing different repertoire.*

**MUPF 1287. Introduction to Vocal Performance. (1)** Prerequisite(s): Admission to the music major. Corequisite(s): MUPF 1122, MUPF 1123, or MUPF 1125. Introduction to the physiology and acoustics of the human singing voice in a group setting. Vocal techniques taught as a healthy foundation for solo performance in both classical and non-classical singing styles.

**MUPF 1288. Vocal Performance. (1)** Prerequisite(s): MUPF 1287 with a grade of "C" or above, or permission of instructor; ; Admission to the music major. Corequisite(s): MUPF 1122, MUPF 1123, or MUPF 1125. Further development of vocal techniques taught as a healthy foundation for solo performance in both classical and non-classical singing styles; taught in a group setting. *May be repeated for credit if performing different repertoire.*

**MUPF 3240. Advanced Applied Music: Euphonium. (2)** Prerequisite(s): MUSC 2400 and permission of instructor. Corequisite(s): MUSC 3300 and an approved principal ensemble. Advanced private instruction, a one-hour lesson per week, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 3241. Advanced Applied Music: Trumpet. (2)** Prerequisite(s): MUSC 2400 and permission of instructor. Corequisite(s): MUSC 3300 and an approved principal ensemble. Advanced private instruction, a one-hour lesson per week, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 3242. Advanced Applied Music: French Horn. (2)** Prerequisite(s): MUSC 2400 and permission of instructor. Corequisite(s): MUSC 3300 and an approved principal ensemble. Advanced private instruction, a one-hour lesson per week, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 3243. Advanced Applied Music: Trombone. (2)** Prerequisite(s): MUSC 2400 and permission of instructor. Corequisite(s): MUSC 3300 and an approved principal ensemble. Advanced private instruction, a one-hour lesson per week, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 3244. Advanced Applied Music: Tuba. (2)** Prerequisite(s): MUSC 2400 and permission of instructor. Corequisite(s): MUSC 3300 and an approved principal ensemble. Advanced private instruction, a one-hour lesson per week, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 3245. Advanced Applied Music: Guitar. (2)** Prerequisite(s): MUSC 2400 and permission of instructor. Corequisite(s): MUSC 3300 and an approved principal ensemble. Advanced private instruction, a one-hour lesson per week, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 3246. Advanced Applied Music: Harp. (2)** Prerequisite(s): MUSC 2400 and permission of instructor. Corequisite(s): MUSC 3300 and an approved principal ensemble. Advanced private instruction, a one-hour lesson per week, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 3247. Advanced Applied Music: Organ. (2)** Prerequisite(s): MUSC 2400 and permission of instructor. Corequisite(s): MUSC 3300 and an approved principal ensemble. Advanced private instruction, a one-hour lesson per week, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 3248. Advanced Applied Music: Piano. (2)** Prerequisite(s): MUSC 2400 and permission of instructor. Corequisite(s): An approved principal ensemble. Advanced private instruction, a one-hour lesson per week, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 3249. Advanced Applied Music: Violin. (2)** Prerequisite(s): MUSC 2400 and permission of instructor. Corequisite(s): MUSC 3300 and an approved principal ensemble. Advanced private instruction, a one-hour lesson per week, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 3250. Advanced Applied Music: Viola. (2)** Prerequisite(s): MUSC 2400 and permission of instructor. Corequisite(s): MUSC 3300 and an approved principal ensemble. Advanced private instruction, a one-hour lesson per week, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 3251. Advanced Applied Music: Cello. (2)** Prerequisite(s): MUSC 2400 and permission of instructor. Corequisite(s): MUSC 3300 and an approved principal ensemble. Advanced private instruction, a one-hour lesson per week, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 3252. Advanced Applied Music: Bass. (2)** Prerequisite(s): MUSC 2400 and permission of instructor. Corequisite(s): MUSC 3300 and an approved principal ensemble. Advanced private instruction, a one-hour lesson per week, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 3253. Advanced Applied Music: Voice. (2)** Prerequisite(s): MUSC 2400 and permission of instructor. Corequisite(s): MUSC 3300 and an approved principal ensemble. Advanced private instruction, a one-hour lesson per week, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 3254. Advanced Applied Music: Flute. (2)** Prerequisite(s): MUSC 2400 and permission of instructor. Corequisite(s): MUSC 3300 and an approved principal ensemble. Advanced private instruction, a one-hour lesson per week, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 3255. Advanced Applied Music: Clarinet. (2)** Prerequisite(s): MUSC 2400 and permission of instructor. Corequisite(s): MUSC 3300 and an approved principal ensemble. Advanced private instruction, a

one-hour lesson per week, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 3256. Advanced Applied Music: Saxophone. (2)** Prerequisite(s): MUSC 2400 and permission of instructor. Corequisite(s): MUSC 3300 and an approved principal ensemble. Advanced private instruction, a one-hour lesson per week, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 3257. Advanced Applied Music: Oboe. (2)** Prerequisite(s): MUSC 2400 and permission of instructor. Corequisite(s): MUSC 3300 and an approved principal ensemble. Advanced private instruction, a one-hour lesson per week, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 3258. Advanced Applied Music: Bassoon. (2)** Prerequisite(s): MUSC 2400 and permission of instructor. Corequisite(s): MUSC 3300 and an approved principal ensemble. Advanced private instruction, a one-hour lesson per week, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 3259. Advanced Applied Music: Percussion. (2)** Prerequisite(s): MUSC 2400 and permission of instructor. Corequisite(s): MUSC 3300 and an approved principal ensemble. Advanced private instruction, a one-hour lesson per week, leading to a formal jury at the end of the semester. *May be repeated for credit.*

**MUPF 3260. Advanced Applied Music: Jazz Saxophone. (2)** Prerequisite(s): MUSC 2400 or permission of instructor. Corequisite(s): MUSC 3300 and an approved principal ensemble. Advanced applied study of jazz. Assignments address tone and technical development, jazz phrasing, jazz articulation, advanced jazz improvisation, and solo transcription. *May be repeated for credit.*

**MUPF 3261. Advanced Applied Music: Jazz Trumpet. (2)** Prerequisite(s): MUSC 2400 or permission of instructor. Corequisite(s): MUSC 3300 and an approved principal ensemble. Advanced applied study of jazz. Assignments address tone and technical development, jazz phrasing, jazz articulation, advanced jazz improvisation, and solo transcription. *May be repeated for credit.*

**MUPF 3262. Advanced Applied Music: Jazz Trombone. (2)** Prerequisite(s): MUSC 2400 or permission of instructor. Corequisite(s): MUSC 3300 and an approved principal ensemble. Advanced applied study of jazz. Assignments address tone and technical development, jazz phrasing, jazz articulation, advanced jazz improvisation, and solo transcription. *May be repeated for credit.*

**MUPF 3263. Advanced Applied Music: Jazz Guitar. (2)** Prerequisite(s): MUSC 2400 or permission of instructor. Corequisite(s): MUSC 3300 and an approved principal ensemble. Advanced applied study of jazz. Assignments address tone and technical development, jazz phrasing, jazz articulation, advanced jazz improvisation, and solo transcription. *May be repeated for credit.*

**MUPF 3264. Advanced Applied Music: Jazz Piano. (2)** Prerequisite(s): MUSC 2400 or permission of instructor. Corequisite(s): MUSC 3300 and an approved principal ensemble. Advanced applied study of jazz. Assignments address tone and technical development, jazz phrasing, jazz articulation, advanced jazz improvisation, and solo transcription. *May be repeated for credit.*

**MUPF 3265. Advanced Applied Music: Jazz Bass. (2)** Prerequisite(s): MUSC 2400 or permission of instructor. Corequisite(s): MUSC 3300 and an approved principal ensemble. Advanced applied study of jazz. Assignments address tone and technical development, jazz phrasing, jazz articulation, advanced jazz improvisation, and solo transcription. *May be repeated for credit.*

**MUPF 3266. Advanced Applied Music: Jazz Percussion. (2)** Prerequisite(s): MUSC 2400 or permission of instructor. Corequisite(s): MUSC 3300 and an approved principal ensemble. Advanced applied study of jazz. Assignments address tone and technical development, jazz phrasing, jazz articulation, advanced jazz improvisation, and solo transcription. *May be repeated for credit.*

**MUPF 3400. Junior Recital. (0)** A Junior-level recital of solo and ensemble repertoire performed before a jury of faculty members and the general public. See the *Department of Music Student Handbook* for details. *Graded on a Pass/No Credit basis.*

**MUPF 3440. Junior Recital Preparation: Euphonium. (2)** Prerequisite(s): Grade of C or above in at least one semester of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal junior recital of 15-20 minutes in length per credit hour.

**MUPF 3441. Junior Recital Preparation: Trumpet. (2)** Prerequisite(s): Grade of C or above in at least one semester of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal junior recital of 15-20 minutes in length per credit hour.

**MUPF 3442. Junior Recital Preparation: French Horn. (2)** Prerequisite(s): Grade of C or above in at least one semester of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal junior recital of 15-20 minutes in length per credit hour.

**MUPF 3443. Junior Recital Preparation: Trombone. (2)** Prerequisite(s): Grade of C or above in at least one semester of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal junior recital of 15-20 minutes in length per credit hour.

**MUPF 3444. Junior Recital Preparation: Tuba. (2)** Prerequisite(s): Grade of C or above in at least one semester of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal junior recital of 15-20 minutes in length per credit hour.

**MUPF 3445. Junior Recital Preparation: Guitar. (2)** Prerequisite(s): Grade of C or above in at least one semester of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300

and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal junior recital of 15-20 minutes in length per credit hour.

**MUPF 3446. Junior Recital Preparation: Harp. (2)** Prerequisite(s): Grade of C or above in at least one semester of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal junior recital of 15-20 minutes in length per credit hour.

**MUPF 3447. Junior Recital Preparation: Organ. (2)** Prerequisite(s): Grade of C or above in at least one semester of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal junior recital of 15-20 minutes in length per credit hour.

**MUPF 3448. Junior Recital Preparation: Piano. (2)** Prerequisite(s): Grade of C or above in at least one semester of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal junior recital of 15-20 minutes in length per credit hour.

**MUPF 3449. Junior Recital Preparation: Violin. (2)** Prerequisite(s): Grade of C or above in at least one semester of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal junior recital of 15-20 minutes in length per credit hour.

**MUPF 3450. Junior Recital Preparation: Viola. (2)** Prerequisite(s): Grade of C or above in at least one semester of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal junior recital of 15-20 minutes in length per credit hour.

**MUPF 3451. Junior Recital Preparation: Cello. (2)** Prerequisite(s): Grade of C or above in at least one semester of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal junior recital of 15-20 minutes in length per credit hour.

**MUPF 3452. Junior Recital Preparation: Bass. (2)** Prerequisite(s): Grade of C or above in at least one semester of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal junior recital of 15-20 minutes in length per credit hour.

**MUPF 3453. Junior Recital Preparation: Voice. (2)** Prerequisite(s): Grade of C or above in at least one semester of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal junior recital of 15-20 minutes in length per credit hour.

**MUPF 3454. Junior Recital Preparation: Flute. (2)** Prerequisite(s): Grade of C or above in at least one semester of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal junior recital of 15-20 minutes in length per credit hour.

**MUPF 3455. Junior Recital Preparation: Clarinet. (2)** Prerequisite(s): Grade of C or above in at least one semester of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal junior recital of 15-20 minutes in length per credit hour.

**MUPF 3456. Junior Recital Preparation: Saxophone. (2)** Prerequisite(s): Grade of C or above in at least one semester of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal junior recital of 15-20 minutes in length per credit hour.

**MUPF 3457. Junior Recital Preparation: Oboe. (2)** Prerequisite(s): Grade of C or above in at least one semester of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal junior recital of 15-20 minutes in length per credit hour.

**MUPF 3458. Junior Recital Preparation: Bassoon. (2)** Prerequisite(s): Grade of C or above in at least one semester of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal junior recital of 15-20 minutes in length per credit hour.

**MUPF 3459. Junior Recital Preparation: Percussion. (2)** Prerequisite(s): Grade of C or above in at least one semester of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal junior recital of 15-20 minutes in length per credit hour.

**MUPF 3460. Junior Recital Preparation: Jazz Saxophone. (1 to 2)** Prerequisite(s): MUPF 3260 with grade of C or above in at least one semester and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal junior recital of 15-20 minutes in length per credit hour.

**MUPF 3461. Junior Recital Preparation: Jazz Trumpet. (1 to 2)** Prerequisite(s): MUPF 3261 with grade of C or above in at least one semester and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal junior recital of 15-20 minutes in length per credit hour.

**MUPF 3462. Junior Recital Preparation: Jazz Trombone. (1 to 2)** Prerequisite(s): MUPF 3262 with grade of C or above in at least one semester and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson

per week, leading to a formal junior recital of 15-20 minutes in length per credit hour.

**MUPF 3463. Junior Recital Preparation: Jazz Guitar. (1 to 2)** Prerequisite(s): MUPF 3263 with grade of C or above in at least one semester and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal junior recital of 15-20 minutes in length per credit hour.

**MUPF 3464. Junior Recital Preparation: Jazz Piano. (1 to 2)** Prerequisite(s): MUPF 3264 with grade of C or above in at least one semester and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal junior recital of 15-20 minutes in length per credit hour.

**MUPF 3465. Junior Recital Preparation: Jazz Bass. (1 to 2)** Prerequisite(s): MUPF 3265 with grade of C or above in at least one semester and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal junior recital of 15-20 minutes in length per credit hour.

**MUPF 3466. Junior Recital Preparation: Jazz Percussion. (1 to 2)** Prerequisite(s): MUPF 3266 with grade of C or above in at least one semester and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal junior recital of 15-20 minutes in length per credit hour.

**MUPF 4400. Senior Recital. (0)** A Senior-level recital of solo and ensemble repertoire performed before a jury of faculty members and the general public. See the *Department of Music Student Handbook* for details. *Graded on a Pass/No Credit basis.*

**MUPF 4440. Senior Recital Preparation: Euphonium. (2)** Prerequisite(s): Grade of C or above in at least two semesters of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal senior recital. See Department of Music's current issue of *Student Handbook* for guidelines and recital procedures.

**MUPF 4441. Senior Recital Preparation: Trumpet. (2)** Prerequisite(s): Grade of C or above in at least two semesters of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal senior recital. See Department of Music's current issue of *Student Handbook* for guidelines and recital procedures.

**MUPF 4442. Senior Recital Preparation: French Horn. (2)** Prerequisite(s): Grade of C or above in at least two semesters of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal senior recital. See Department of Music's current issue of *Student Handbook* for guidelines and recital procedures.

**MUPF 4443. Senior Recital Preparation: Trombone. (2)** Prerequisite(s): Grade of C or above in at least two semesters of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): 1300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal senior recital. See Department of Music's current issue of *Student Handbook* for guidelines and recital procedures.

**MUPF 4444. Senior Recital Preparation: Tuba. (2)** Prerequisite(s): Grade of C or above in at least two semesters of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal senior recital. See Department of Music's current issue of *Student Handbook* for guidelines and recital procedures.

**MUPF 4445. Senior Recital Preparation: Guitar. (2)** Prerequisite(s): Grade of C or above in at least two semesters of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal senior recital. See Department of Music's current issue of *Student Handbook* for guidelines and recital procedures.

**MUPF 4446. Senior Recital Preparation: Harp. (2)** Prerequisite(s): Grade of C or above in at least two semesters of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal senior recital. See Department of Music's current issue of *Student Handbook* for guidelines and recital procedures.

**MUPF 4447. Senior Recital Preparation: Organ. (2)** Prerequisite(s): Grade of C or above in at least two semesters of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal senior recital. See Department of Music's current issue of *Student Handbook* for guidelines and recital procedures.

**MUPF 4448. Senior Recital Preparation: Piano. (2)** Prerequisite(s): Grade of C or above in at least two semesters of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal senior recital. See Department of Music's current issue of *Student Handbook* for guidelines and recital procedures.

**MUPF 4449. Senior Recital Preparation: Violin. (2)** Prerequisite(s): Grade of C or above in at least two semesters of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal senior recital. See Department of Music's current issue of *Student Handbook* for guidelines and recital procedures.

**MUPF 4450. Senior Recital Preparation: Viola. (2)** Prerequisite(s): Grade of C or above in at least two semesters of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour

lesson per week, leading to a formal senior recital. See Department of Music's current issue of *Student Handbook* for guidelines and recital procedures.

**MUPF 4451. Senior Recital Preparation: Cello. (2)** Prerequisite(s): Grade of C or above in at least two semesters of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal senior recital. See Department of Music's current issue of *Student Handbook* for guidelines and recital procedures.

**MUPF 4452. Senior Recital Preparation: Bass. (2)** Prerequisite(s): Grade of C or above in at least two semesters of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal senior recital. See Department of Music's current issue of *Student Handbook* for guidelines and recital procedures.

**MUPF 4453. Senior Recital Preparation: Voice. (2)** Prerequisite(s): Grade of C or above in at least two semesters of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal senior recital. See Department of Music's current issue of *Student Handbook* for guidelines and recital procedures.

**MUPF 4454. Senior Recital Preparation: Flute. (2)** Prerequisite(s): Grade of C or above in at least two semesters of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal senior recital. See Department of Music's current issue of *Student Handbook* for guidelines and recital procedures.

**MUPF 4455. Senior Recital Preparation: Clarinet. (2)** Prerequisite(s): Grade of C or above in at least two semesters of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal senior recital. See Department of Music's current issue of *Student Handbook* for guidelines and recital procedures.

**MUPF 4456. Senior Recital Preparation: Saxophone. (2)** Prerequisite(s): Grade of C or above in at least two semesters of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal senior recital. See Department of Music's current issue of *Student Handbook* for guidelines and recital procedures.

**MUPF 4457. Senior Recital Preparation: Oboe. (2)** Prerequisite(s): Grade of C or above in at least two semesters of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal senior recital. See Department of Music's current issue of *Student Handbook* for guidelines and recital procedures.

**MUPF 4458. Senior Recital Preparation: Bassoon. (2)** Prerequisite(s): Grade of C or above in at least two semesters of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal senior recital. See Department of Music's current issue of *Student Handbook* for guidelines and recital procedures.

**MUPF 4459. Senior Recital Preparation: Percussion. (2)** Prerequisite(s): Grade of C or above in at least two semesters of 3000-level Applied Music (MUPF 32xx) and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal senior recital. See Department of Music's current issue of *Student Handbook* for guidelines and recital procedures.

**MUPF 4460. Senior Recital Preparation: Jazz Saxophone. (1 to 3)** Prerequisite(s): MUPF 3260 with grade of C or above in at least one semester and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal senior recital of 15-20 minutes in length per credit hour.

**MUPF 4461. Senior Recital Preparation: Jazz Trumpet. (1 to 3)** Prerequisite(s): MUPF 3261 with grade of C or above in at least one semester and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal senior recital of 15-20 minutes in length per credit hour.

**MUPF 4462. Senior Recital Preparation: Jazz Trombone. (1 to 3)** Prerequisite(s): MUPF 3262 with grade of C or above in at least one semester and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal senior recital of 15-20 minutes in length per credit hour.

**MUPF 4463. Senior Recital Preparation: Jazz Guitar. (1 to 3)** Prerequisite(s): MUPF 3263 with grade of C or above in at least one semester and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal senior recital of 15-20 minutes in length per credit hour.

**MUPF 4464. Senior Recital Preparation: Jazz Piano. (1 to 3)** Prerequisite(s): MUPF 3264 with grade of C or above in at least one semester and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal senior recital of 15-20 minutes in length per credit hour.

**MUPF 4465. Senior Recital Preparation: Jazz Bass. (1 to 3)** Prerequisite(s): MUPF 3265 with grade of C or above in at least one semester and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal senior recital of 15-20 minutes in length per credit hour.

**MUPF 4466. Senior Recital Preparation: Jazz Percussion. (1 to 3)** Prerequisite(s): MUPF 3266 with grade of C or above in at least one

semester and permission of department. Corequisite(s): MUSC 3300 and an approved principal ensemble. Private instruction, a one-hour lesson per week, leading to a formal senior recital of 15-20 minutes in length per credit hour.

# Music (MUSC)

**MUSC 1100. Rudiments of Music. (2)** An introductory course in music literacy, including clefs, pitches, key signatures, durational values, and rests. May be taken concurrently with MUSC 1101.

**MUSC 1101. Introduction to Aural Skills and Sight-Singing. (1)** Prerequisite(s): Acceptance as a Music major or minor, or permission of instructor. An introduction to Aural Skills and Sight-Singing, including pitch-matching, modal identification, and rhythmic dictation. May be taken concurrently with MUSC 1100 and/or MUSC 1237. Three contact hours.

**MUSC 1102. Fundamentals of Musicianship. (3)** An introductory course in basic musicianship, including music literacy (clefs, pitches, key signatures, durational values, and rests) and aural skills (the identification and dictation of modes, melodies, and rhythms).

**MUSC 1104. History of Rock. (3)** Introduction to various musics that formed the foundations of rock music and the numerous sub-genres that developed throughout time from early blues through the contemporary period. Particular emphasis placed on the historical and socio-cultural context from which the genre arose.

**MUSC 1222. Jazz Ensemble Techniques. (1)** Prerequisite(s): Music minor/major. The teaching and administration of public school jazz ensembles including rehearsal techniques, and analyzing appropriate literature and teaching materials. Fieldwork may be required.

**MUSC 1223. Woodwind Techniques. (1)** Prerequisite(s): Acceptance as Music major. Playing and teaching techniques and materials for flute, oboe, clarinet, bassoon, and saxophone.

**MUSC 1225. Brass Techniques. (1)** Prerequisite(s): Acceptance as Music major. Playing and teaching techniques and materials for trumpet, horn, trombone, euphonium, and tuba.

**MUSC 1227. String Techniques. (1)** Prerequisite(s): Acceptance as Music major. Playing and teaching techniques and materials for violin, viola, cello, and bass. Two contact hours.

**MUSC 1228. Advanced String Skills. (1)** Prerequisite(s): MUSC 1227 or permission of instructor. Advanced playing and teaching techniques and materials with an emphasis on secondary string instruments.

**MUSC 1229. Percussion Techniques. (1)** Prerequisite(s): Acceptance as Music major. Playing and teaching techniques and materials for snare drum, timpani, mallet percussion, and accessory instruments.

**MUSC 1230. Musicianship I. (3)** Co-requisite Course(s): MUSC 1233. An introduction to and study of music theory beginning with rudimentary clef and pitch reading and continuing with diatonic scale recognition, key signatures, intervals, triad formation, and basic Roman numeral and figured bass analysis of triads and 7th chords. Practical application of this material through aural skill development such as basic sight-singing, rhythm reading, and simple melodic dictation.

**MUSC 1231. Musicianship II. (3)** Prerequisite(s): MUSC 1230 with grade of C or above, or permission of instructor. Co-requisite Course(s): MUSC 1234. Continuation of Musicianship I. Topics include common practice harmony and voice-leading, and musical structures. Aural skills include rhythmic subdivisions in simple and compound meters, half and dotted half note tactus, and harmonic dictation of all diatonic chords and their requisite 7th chords.

**MUSC 1233. Class Piano I. (1)** Prerequisite(s): Music major or minor. Corequisite(s): MUSC 1230 or permission of instructor. This is a lab course for MUSC 1230. Functional keyboard skills and technique in a group setting, including the harmonization, transposition, and improvisation of diatonic melodies, as well as sightreading and repertoire.

**MUSC 1234. Class Piano II. (1)** Prerequisite(s): MUSC 1233 with grade of C or above, or permission of instructor. Corequisite(s): MUSC 1231 or permission of instructor. This is a lab course for MUSC 1231. The continued study of functional keyboard skills and technique, including the harmonization, transposition, and improvisation of major and minor melodies in a variety of keys, as well as sight-reading and repertoire.

**MUSC 1236. Movement for Musicians. (1)** Prerequisite(s): Acceptance as Music major or minor. A laboratory that investigates the intellectual and physical coordination of the musician using a blended approach of various movement/coordinative modalities and developmental approaches. *May be repeated for credit.*

**MUSC 1237. Class Voice. (1)** Prerequisite(s): Acceptance as Music major, minor, or Undergraduate Certificate in Musical Theatre; or permission of department. Class instruction in voice. *May be repeated for credit.*

**MUSC 1238. Guitar Class I. (1)** Class instruction in guitar.

**MUSC 1239. Guitar Class II. (1)** Continuation of MUSC 1238. Class instruction in guitar.

**MUSC 1240. Class Voice for Musical Theatre. (1)** Prerequisite(s): MUSC 1237; and Music major or minor; acceptance in the Undergraduate Certificate in Musical Theatre; or permission of the department. Class instruction in voice for Musical Theatre. *May be repeated for credit.*

**MUSC 1300. Performance Class. (0)** Corequisite(s): Applied Music (MUPF 1240-1259). This is a lab course for Applied Music that provides students with the experience of participating in masterclasses and formal recitals. By also serving as audience members and assisting during public concerts, the students cultivate proper audience decorum, contribute to a professional environment for all university performances, and increase their knowledge of the repertoire from various cultures and historical periods. Includes introductions to various issues related to health and safety. *Graded on a Pass/No Credit basis. May be repeated.*

**MUSC 1402. Opera and Musical Theatre Practicum. (1)** Prerequisite(s): Permission of instructor. Practical application of production work in the areas of: introductory stage rigging, lighting adjustments, supertitling, costume, props, backstage management and

backstage crew for final rehearsals and performances of the Opera Workshop ensemble. *May be repeated for credit.*

**MUSC 1403. Audio Engineering Practicum. (1)** Prerequisite(s): Permission of instructor. Practical application of audio engineering work in the areas of recording, controlling, editing, and distributing sound and audio for dance, music, and theatre. *May be repeated for credit.*

**MUSC 1502. Global Arts/Humanities: Music in Global Communities. (3)** All Global Theme courses explore the central, unifying question of what it means to be a citizen of the world. Through the study of one or more different peoples, societies or cultures across the globe, students will be able to better understand themselves as part of a complex, interconnected world. We approach our interdisciplinary study of music with the understanding that the social, cultural, and political contexts where music is created, shared, and heard inform the sounds of the music and its various interpretations and meanings. *May not be taken for credit and for a grade if credit has been received for LBST 1103.*

**MUSC 1512. Local Arts/Humanities: Music in U.S. Communities. (3)** All Local Theme courses explore the central, unifying question of what it means to be a member of the "local" community in which we live. Through the study of the experiences of different peoples, cultures, and communities in our city, our region, or our nation, students will be able to better understand themselves in the context of the complex and diverse society in which we live. In this course, we seek to understand musical practices in U.S. communities in their social context. We approach our interdisciplinary study of music with the understanding that social, cultural, and political contexts where music is created, shared, and heard inform the sounds of the music and its various interpretations and meanings.

**MUSC 2001. Topics in Music. (1 to 6)** Prerequisite(s): Permission of instructor. Special topic in music. *May be repeated for credit.*

**MUSC 2101. Introduction to Music Business. (2)** Prerequisite(s): Acceptance as a Music major or minor. An overview of various aspects of the music business, including marketing, promotion, communication, conduct, organization, accounting, and administration. Course projects may include the creation of promotional materials and planning a CD/DVD recording project.

**MUSC 2137. Phonetics and Articulation for Singers I: Italian and Latin Diction. (1)** Prerequisite(s): Acceptance as a Music major or minor. The teaching of the International Phonetic Alphabet (IPA) and its application to pronunciation and articulation in vocal music in Italian and Latin.

**MUSC 2138. Phonetics and Articulation for Singers II: English Diction. (1)** Prerequisite(s): MUSC 2137 or permission of instructor. The application of the International Phonetic Alphabet (IPA) to pronunciation and articulation in vocal music in English.

**MUSC 2140. Double Reed Making. (1)** Designing and adjusting American-style oboe and/or bassoon reeds, including techniques for cane selection, gouging, shaping, profiling, and sharpening the reed knife. *May be repeated for credit.* Two contact hours.

**MUSC 2150. Accompanying for Pianists. (1)** Corequisite(s): MUPF 1248. Accompanying techniques for pianists. Required accompanying of solos by other student musicians. *May be repeated for credit.* One contact hour.

**MUSC 2191. Incorporating Music Into the Elementary Classroom. (3)** Prerequisite(s): Non-Music major. Students develop basic music skills that allow them to choose, prepare, and teach appropriate music materials for inclusion in the classroom curricula. Field work required.

**MUSC 2222. Marching Band Techniques. (1)** Prerequisite(s): Acceptance as Music major or minor. The organization and administration of marching band programs in school settings, the application of teaching techniques for the outdoor program and the practical use of computerized software for designing and teaching of field drills.

**MUSC 2230. Musicianship III. (3)** Prerequisite(s): MUSC 1231 with grade of C or above, or permission of instructor. Co-requisite Course(s): MUSC 2233. Continuation of Musicianship II. Analysis of repertoire in binary form including larger form, double, modified, and asymmetrical periods; common chord modulation to closely related keys; introduction to modal mixture; augmented 6ths chords; and distant modulation. Aural skills include form recognition; melodic chromaticism, passing tones, and incomplete neighbors; tonicization and modulation techniques; eighth and dotted eighth tactus, 5/4, and changing time signatures.

**MUSC 2233. Class Piano III. (1)** Prerequisite(s): MUSC 1234 with grade of C or above, or permission of instructor. Corequisite(s): MUSC 2230 or permission of instructor. This is a lab course for MUSC 2230. The continued study of functional keyboard skills and technique, including chromatic harmonization, the transposition and improvisation of melodies with simple harmonic accompaniments, sight-reading, repertoire, and accompanying.

**MUSC 2234. Class Piano IV. (1)** Prerequisite(s): MUSC 2233 with grade of C or above, or permission of instructor. This is a lab course. The continued study of functional keyboard skills and technique, including chromatic harmonization, the transposition and improvisation of melodies with four-part accompaniments, score reading, sight-reading, repertoire, and accompanying.

**MUSC 2235. Jazz Improvisation I. (2)** Prerequisite(s): MUSC 1230 and/or permission of instructor. An introduction to jazz theory and its execution through instrumental improvisation. Detailed study of harmony, chord/scale relationships, musical forms, and the integration of this knowledge into performance. Open to instrumentalists only.

**MUSC 2236. Jazz Improvisation II. (2)** Prerequisite(s): MUSC 2235 and permission of instructor. A continuation of MUSC 2235, with greater emphasis on performance and integration of advanced harmonic/melodic devices and concepts, solo transcriptions, basic piano voicings, and composition memorization. Open to instrumentalists only.

**MUSC 2237. Phonetics and Articulation for Singers III: German Diction. (1)** Prerequisite(s): MUSC 2138 or permission of instructor. Phonetics and articulation in vocal music in German.

**MUSC 2238. Phonetics and Articulation IV: French Diction. (1)** Prerequisite(s): MUSC 2237 or permission of instructor. Phonetics and articulation for singers in vocal music in French.

**MUSC 2240. Introduction to Composition. (1)** Prerequisite(s): Music major and MUSC 1230; or permission of instructor. Introduces fundamental principles and techniques of composition, including melody, harmonic progression, phrase construction, motive, and simple formal design. *May be repeated for credit.*

**MUSC 2400. Sophomore Review. (0)** A Sophomore-level proficiency examination consisting of a transcript evaluation, an applied performance evaluation, and an interview. See the *Department of Music Student Handbook* for details.

**MUSC 2410. Music Internship. (1 to 3)** Prerequisite(s): Permission of department. Provides a meaningful work experience in fields such as music business, music industry, and arts administration. Requires 40-50 hours of supervised employment per credit hour. Proposal forms must be completed and approved prior to registration. *Graded on a Pass/No Credit basis. May be repeated for credit.*

**MUSC 2800. Independent Study in Music. (3)** Prerequisite(s): Music major; permission of Department and Instructor. Supervised investigation of a topic in the field of music. *May be repeated for credit with change of topic.*

**MUSC 3100. Introduction to Music Technology. (1)** Prerequisite(s): Permission of instructor. An introduction to the standard applications of music technology, including general computing processes, digital audio, MIDI, music notation, and computer-aided instruction. Requirements include a project focused on music and culture outside of the classical music canon.

**MUSC 3129. Music Theories of the World. (3)** Prerequisite(s): MUSC 2230 with a grade of C or better, or permission of instructor. The study of musical characteristics of diverse musical traditions from around the world. Through transcription and analysis of various music styles from around the world, tuning, notation systems, melody, mode, rhythm, and form are covered in depth, with additional consideration of how the musical instruments, lives of musicians, and social settings of performances relate to the musical systems.

**MUSC 3130. Counterpoint. (2)** Prerequisite(s): MUSC 2230 with a grade of C or above, or permission of instructor. A detailed study of various contrapuntal styles, such as Renaissance, Baroque, Classical, Post-tonal, and Popular styles through extensive exploration of melodic, harmonic, and rhythmic designs with an emphasis on composition.

**MUSC 3131. Popular Music Songwriting. (3)** Prerequisite(s): MUSC 2230 with a grade of C or better, or permission of instructor. Introduction to popular music songwriting and arranging fundamentals. Through song analysis, composition, and transcription, students learn about the musical characteristics of many genres of popular music, focusing on melody, text-music relationships, rhythm and meter, harmony, form, texture, instrumentation, notation, and the basics of using a DAW.

**MUSC 3132. Advanced Tonal Aural Skills. (3)** Prerequisite(s): MUSC 2230 with a grade of C or better, or permission of instructor. Continued study of chromatic tonal harmony including a more in-depth study of modal mixture, the Neapolitan, augmented 6ths, altered dominants, common-tone diminished 7th, common-tone augmented 6ths, and harmonic extensions. Singing and dictating melodies and 4-part harmony with these attributes.

**MUSC 3133. Advanced Post-Tonal Aural Skills. (3)** Prerequisite(s): MUSC 2230 with a grade of C or better, or permission of instructor. Overview of diatonicism and the disembodiment of common practice methods. Covers post-tonal interval singing to singing and recognizing modes of limited transposition, interval cycles, and set classes, and their requisite literature from the post-tonal canon; requisite advanced meter and rhythmic techniques of unequal meter, changing meter, advanced polyrhythms, rhythmic modulation, and additive meter.

**MUSC 3134. Fundamentals of Conducting. (2)** Prerequisite(s): MUSC 2230 with grade of C or above, or permission of instructor. Conducting techniques for instrumental and choral ensembles. Field work required.

**MUSC 3135. Choral Conducting. (2)** Prerequisite(s): MUSC 2138, MUSC 3134, and MUSC 3151, all with grades of C or above, or permission of instructor. Developing conducting skills for interpreting choral music. Field work required.

**MUSC 3136. Instrumental Conducting. (2)** Prerequisite(s): MUSC 3134 with grade of C or above. Developing conducting skills for interpreting instrumental music. Field work required.

**MUSC 3150. Advanced Accompanying for Pianists. (1)** Prerequisite(s): Two semesters of MUSC 2150. Corequisite(s): MUPF 3248. Advanced accompanying techniques for pianists. Required accompanying of solos by other student musicians. *May be repeated for credit.*

**MUSC 3151. Accompanying for Non-Pianists. (1)** Prerequisite(s): MUSC 2234 with grade of C or above or permission of instructor. Accompanying techniques for music teachers and private studio instructors, with an emphasis on techniques appropriate for use in classrooms, rehearsals, and studios. *May be repeated for credit.*

**MUSC 3170. Western Classical Music: Antiquity-Baroque. (3)** Prerequisite(s): Music major, and MUSC 1231 with grade of C or above, or permission of instructor. The intensive study of the development of ideas and styles in Western classical music from Classical Antiquity through the Baroque Period.

**MUSC 3171. Western Classical Music: Classic-Present. (3)** Prerequisite(s): MUSC 2230 with a grade of C or above, or permission of instructor. The intensive study of the development of ideas and styles in Western classical music from the Classical period to the present.

**MUSC 3172. Western Classical Music Literature. (3)** Prerequisite(s): Admission to the music major. Study of the concepts and elements of musical style as they apply to the general style periods in Western music from the Middle Ages to the present.

**MUSC 3252. Jazz Piano Techniques. (1)** Prerequisite(s): Audition and permission of instructor. Develops jazz piano playing skills with blues and standard jazz harmonic progressions. Content includes the development of common harmonic techniques in jazz compositions, and the interpretation and performance of them in standard jazz literature on the piano.

**MUSC 3300. Advanced Performance Class. (0)** Corequisite(s): Advanced Applied Music (MUPF 3240-3259), Junior Recital Preparation (MUPF 3440-3459), or Senior Recital Preparation (MUPF 4440-4459). This is a lab course for Advanced Applied Music that provides students with multiple experiences of performing in front of an audience. By also serving as audience members and assisting during public concerts, the students continue to cultivate proper audience decorum, contribute to a professional environment for all university performances, and increase their knowledge of the repertoire from various cultures and historical periods. Includes introductions to various issues related to health and safety. *Graded on a Pass/No Credit basis. May be repeated.*

**MUSC 4001. Advanced Topics in Music. (1 to 6)** Prerequisite(s): MUSC 2400 and permission of instructor. Special advanced topic in music. *May be repeated for credit.*

**MUSC 4037. Vocal Literature. (3)** Prerequisite(s): MUSC 2400 or permission of instructor. A survey of American, British, French, German, and Italian literature for solo voice, including a study of style and interpretation.

**MUSC 4090. Choral Ensemble Techniques. (1)** Prerequisite(s): MUSC 3134 with grade of C or above. An introduction to the voice and to teaching choral ensembles most often found in school programs for pre-service instrumental/general music teachers. Students explore how to effectively rehearse, manage, and perform with a choral ensemble. Students also explore developmentally appropriate vocal-pedagogy concepts for adolescent through adult-aged singers.

**MUSC 4094. Instrumental Ensemble Techniques. (1)** Prerequisite(s): MUSC 3134 with grade of C or above. An introduction to the band and orchestra instruments most often found in school instrumental music programs for pre-service choral/general music teachers. Students explore how to effectively rehearse, manage, and perform with an instrumental ensemble. Students also explore the acoustics, sound production, and basic techniques of instruments in the brass, woodwind, string, and percussion families.

**MUSC 4132. Guitar Pedagogy and Literature. (3)** Prerequisite(s): MUSC 2400 or permission of instructor. A survey of teaching methods, historical and pedagogical texts, and literature for guitar.

**MUSC 4133. Wind Pedagogy and Literature. (3)** Prerequisite(s): MUSC 2400 or permission of instructor. A survey of teaching methods, historical and pedagogical texts, and literature for woodwind and brass instruments.

**MUSC 4134. String Pedagogy and Literature. (3)** Prerequisite(s): MUSC 2400 or permission of instructor. A survey of teaching methods, historical and pedagogical texts, and literature for string instruments.

**MUSC 4135. Percussion Pedagogy and Literature. (3)** Prerequisite(s): MUSC 2400 or permission of instructor. A survey of teaching methods, historical and pedagogical texts, and literature for percussion instruments.

**MUSC 4136. Keyboard Pedagogy and Literature. (3)** Prerequisite(s): MUSC 2400 or permission of instructor. A survey of teaching methods, historical and pedagogical texts, and literature for keyboard instruments.

**MUSC 4137. Vocal Pedagogy. (3)** Prerequisite(s): MUSC 2400 or permission of instructor. A methodology course designed to present the physiological and acoustical bases for a coherent approach to the teaching of singing. Areas of vocal technique to be studied include the physiology of the voice, posture, breathing, onset of sound, articulation, vocal registration, and other related areas.

**MUSC 4138. Jazz Pedagogy and Materials. (3)** Prerequisite(s): MUSC 2400 or permission of instructor. The teaching and conducting of public school instrumental and vocal jazz ensembles, including rehearsal techniques, concert presentation, the history and theory of jazz, sources for appropriate teaching materials and improvisation techniques. Field work required.

**MUSC 4149. Violin Pedagogy. (3)** Prerequisite(s): MUSC 2400 or permission of instructor. Corequisite(s): MUPF 3249. A methodology course outlining the teaching techniques, materials, and related literature necessary for offering private instruction on the violin.

**MUSC 4153. Advanced Vocal Pedagogy. (3)** Prerequisite(s): MUSC 4137 with grade of C or above or permission of instructor. An advanced course studying the practical aspects of teaching voice, including problem-solving techniques, comparison of various teaching methods, psychology of teaching voice, age-specific teaching techniques, use of movement, and vocalize analysis.

**MUSC 4230. Form and Analysis. (3)** Prerequisite(s): MUSC 2230 with a grade of C or above, or permission of instructor. The impact of form, process, and other musical elements on the analysis and interpretation of music. A detailed examination of common practice forms including but not limited to Binary, Ternary, Rondo, Theme and Variations, and Sonata form, as well as more recent forms from a variety of styles from the 20th/21st centuries. Chromatic harmony will be discussed in relation to pieces analyzed over the course of the semester.

**MUSC 4231. Post-Tonal Processes. (3)** Prerequisite(s): MUSC 4230 with grade of C or above or permission of instructor. The study of contemporary art music through the implementation of a variety of analytical techniques including but not limited to modal analysis, set theory, and serial analysis. This course features an exploration of post-tonal styles including but not limited to Impressionism, Modernism, Neoclassicism, Post-Serialism, Minimalism, and Neo-Romanticism.

**MUSC 4234. Jazz Arranging and Composition. (3)** Prerequisite(s): MUSC 2230 and MUSC 2235, with grades of C or above, or permission of instructor. The study of arranging and orchestration techniques in the jazz style. Detailed analysis of historically important music scores for jazz combo and jazz ensemble. Instrument ranges, scoring techniques, and advanced harmonic substitutions are addressed. Combo and large ensemble writing projects are assigned.

**MUSC 4235. Orchestration and Arranging. (2)** Prerequisite(s): MUSC 2230 with a grade of C or above, or permission of instructor. Orchestration and the techniques used to transcribe and arrange music for vocal and instrumental ensembles with a focus on writing and performance.

**MUSC 4240. Composition. (2)** Prerequisite(s): MUSC 4235 with grade of C or above and permission of instructor. An introduction to compositional techniques of melody, harmony, rhythm, form, and

instrumentation with an emphasis on writing, listening, and performance. *May be repeated for credit.*

**MUSC 4241. Advanced Composition. (2)** Prerequisite(s): MUSC 4240 with grade of C or above or permission of instructor. The advanced study of composition, including process, form, pitch and rhythmic organization, and instrumentation. The course consists of advanced private instruction, a one-hour lesson per week, focusing exclusively on the writing and performance of original compositions. *May be repeated for credit.*

**MUSC 4298. Jazz History. (3)** Prerequisite(s): MUSC 2230 with a grade of C or above, or permission of instructor. The study of significant musicians and literature in the history of jazz. Detailed analyses of influential scores and recordings constitute a significant part of the course. Written projects such as research and listening reaction papers will be assigned.

**MUSC 4410. Senior Music Internship. (2 to 4)** Prerequisite(s): Permission of department. Provides a meaningful work experience in any music or music-related field. Enrollment for two credit hours requires a minimum of 50 hours of supervised employment. Enrollment for three credit hours requires a minimum of 100 hours of supervised employment. Enrollment for four credit hours requires a minimum of 150 hours of supervised employment. Proposal forms must be completed and approved prior to registration. *May be repeated for credit up to 4 credit hours.*

**MUSC 4800. Senior Project Preparation. (1 to 3)** Prerequisite(s): Permission of department. The preparation of an independent project. Proposal forms must be completed and approved prior to registration. *May be repeated for credit up to 3 credit hours.*

**MUSC 4900. Music Capstone. (0)** Completion of a Senior Music Internship or a Senior Project. *Graded on a Pass/No Credit basis.*

# Neurodiagnostics and Sleep Science (NDSS)

**NDSS 2101. Introduction to Sleep Medicine. (3)** An introduction to sleep science by examining the history of the profession of sleep medicine, basic principles of sleep medicine practice and procedures. The current structure, limitations, political climate and future considerations for the profession are also discussed.

**NDSS 3101. Pathophysiology of Sleep, Neurological, and Related Disorders. (3)** Prerequisite(s): NDSS major. Explores the diseases affecting the nervous system, the sleep/wake cycle, and psychiatric and behavioral disorders. Topics include: etiology, clinical manifestations, pharmacology, disease prevention, and overview of treatments.

**NDSS 3102. Neurological and Sleep Diagnostic and Therapeutic Methods, and Monitoring Services. (3)** Prerequisite(s): NDSS major. Explores the services available at sleep and neurophysiology laboratories and interpretation of diagnostic findings. Topics include: sleep procedures, and electroencephalography/long-term epilepsy monitoring. Students participate in laboratory practice sessions.

**NDSS 3104. Advanced Sleep and Neurodiagnostic Clinical Procedures. (3)** Prerequisite(s): NDSS major; NDSS 3101 and NDSS 3102 with grades of C or above. Explores advanced clinical procedures performed in sleep centers and neurophysiology laboratories. Topics include: patient assessment, suggested immobilization test, ambulatory EEG, actigraphy, portable monitoring, dental sleep medicine, nocturnal ventilator support, and current issues and trends. Laboratory sessions provide practical experience in advanced clinical procedures in neurodiagnostics and sleep science.

**NDSS 3405. Neurodiagnostics and Sleep Science Practicum. (3)** Prerequisite(s): NDSS major; NDSS 3104 with grade of C or above. Sleep disorders center and clinical neurophysiology laboratory clinical experience.

**NDSS 3900. Undergraduate Research. (1 to 3)** Prerequisite(s): Permission of program faculty. Enables majors to initiate research projects in their respective fields of interests. The student's work assignments are designed by the student and faculty member who oversee the project of study. Credit hours are determined prior to enrollment and are based on the particular project undertaken. *May be repeated for credit with change of topic.*

**NDSS 4101. Principles and Practice of Healthcare Education. (3)** Prerequisite(s): NDSS major; NDSS 3101 with grade of C or above. Provides a foundation in the principles and practice of healthcare education. Topics include: the educational process, learner characteristics, and teaching and learning theories, techniques and strategies.

**NDSS 4104. Advanced Physiological Monitoring and Data Acquisition. (3)** Prerequisite(s): NDSS major; NDSS 3104 with grade of C or above. Explores the advanced clinical procedures performed in clinical neurophysiology laboratories and operating rooms. Topics include: nerve conduction velocity testing, autonomic testing, electronystagmography, visual, brainstem, auditory and somatosensory evoked potentials intraoperative neurophysiologic monitoring and maintenance. Laboratory sessions provide practical experience in neurophysiologic monitoring techniques.

**NDSS 4406. Neurodiagnostics and Sleep Science Internship. (3)** Prerequisite(s): NDSS major; NDSS 4101 and RESP 4102 with grades of C or above. Sleep and clinical neurophysiology laboratory educational/management internship with mentoring component.

**NDSS 4107. Neurodiagnostics and Sleep Science Capstone. (6)** Prerequisite(s): NDSS major; NDSS 3405, NDSS 4104, and NURN 4201 with grades of C or above. Students complete a project and presentation culminating from the undergraduate course of study. Project topics provide students the opportunity to summarize, evaluate, and integrate knowledge gained throughout the undergraduate major.

**NDSS 4201. Information Technology and Analytics in Neurodiagnostics and Sleep Science. (2)** Focuses on information technology and analytics used specifically in neurodiagnostics and sleep science, including storage records, acquiring software requirements, and record transmission. The requirements and analytics of interoperative monitoring, long-term monitoring, epilepsy monitoring, WADA testing, and long-term Polysomnography acquisition, storage, sharing, and accreditation guidelines are examined.

## Nursing: RN-to-BSN (NURN)

**NURN 3103. Concepts of Professional Nursing Science. (3)** Prerequisite(s): Admission to the RN-BSN Program or permission of instructor. Introduces professional nursing with emphasis on theoretical, ethical, and legal models guiding practice.

**NURN 3104. Issues in Cultural Health. (1)** Prerequisite(s): Admission to the RN-BSN Program or permission of instructor. Exploration of concepts and models of cultural health. Analysis of current issues related to culture and healthcare and the impact on provision of nursing care.

**NURN 3108. Health Assessment for Nurses. (3)** Prerequisite(s): Admission to the RN-BSN Program or permission of instructor. Evaluation of human function using interview and physical examination data within a framework for clinical decision making. Competencies necessary for holistic health assessment across the lifespan.

**NURN 4100. Aging and Health. (3)** Prerequisite(s): Admission to the RN-BSN Program or permission of instructor; NURN 3103; NURN 3104; and NURN 3108. Examination of physiological process of aging as a normal life experience. Study of psychological, nutritional, and general health issues designed to facilitate high-level wellness.

**NURN 4192. Enhancing Clinical Judgment. (3)** Prerequisite(s): Admission to the RN-BSN Completion option or permission of instructor. Enhances student's ability to make sound nursing clinical judgments. Students have the opportunity to (a) reflect on their own style of thinking, (b) examine the role of critical thinking in making clinical judgments, (c) learn strategies for enhancing critical thinking and clinical reasoning, (d) practice applying the strategies in a variety of case studies, (e) critically study their own clinical practice, and (f) benefit from learning via on-line group discussion with peers.

**NURN 4201. Information Technology: Applications in Healthcare. (2)** Prerequisite(s): Upper-division standing or permission of instructor. A study of the use of computers and information technology in healthcare. Emphasis is placed on development of the knowledge and competencies necessary for selective use of evaluation of informatics, computer technology and data management in healthcare.

**NURN 4203. Leadership in Nursing Practice. (2)** Prerequisite(s): Admission to the RN-BSN Program or permission of instructor; NURN 4100; NURN 4201; and NURN 4440. Exploration of societal and professional trends and issues affecting nursing and healthcare. Leadership strategies within the profession and practice of nursing. Analysis of care that supports effective utilization of the healthcare delivery system. Health system mediation and health system management is explored from a nursing intervention perspective.

**NURN 4440. Community Health Nursing. (6)** Prerequisite(s): Admission to the RN-BSN Program, NURN 3103, NURN 3104, and NURN 3108. Development of competencies for the nursing care management of individuals, families, and populations within communities with emphasis on the nurse's role in health promotion and maintenance and focus on risk identification and reduction throughout the lifespan.

**NURN 4450. Design and Coordination of Care. (6)** Prerequisite(s): Admission to the RN-BSN Program, NURN 4100, NURN 4201, and NURN 4440. Application of theory-based practice in a variety of settings with clients who have multiple healthcare needs. Emphases are on clinical judgment and decision-making, diagnostic reasoning, clinical ethics, collaboration and case management. Examination of nursing therapeutics within the structure of nursing process and nursing diagnosis.

**NURN 4900. Research in Nursing Practice. (2)** Prerequisite(s): Admission to the RN-BSN Program or permission of instructor; NURN 4100; NURN 4201; and NURN 4440. Exploration of the theoretical foundations of nursing with emphasis on research, theories, concepts and processes leading to their application in practice.

## Nursing (NURS)

**NURS 2100. General Nutrition. (2)** Prerequisite(s): CHEM 1204 or 1252. A solid knowledge base of general nutrition viewed from a life cycle perspective. Exploration of behavioral aspects and scientific concepts related to nutrition. Open to Pre-nursing majors, Sophomore, Junior, or Senior standing.

**NURS 2200. Human Growth and Development. (3)** Pre- or Corequisite(s): Pre-Nursing major, Sophomore, Junior, or Senior standing; and BIOL 2273 and BIOL 2273L, or EXER 2168 and EXER 2168L. Study of the developing person through the lifespan by examining the relationship of selected environmental and social factors to human growth and development. Consideration of the meaning of health and illness to the individual, the family, and the community within the context of life as a continuing, dynamic process from conception through death.

**NURS 3102. Introduction to Nursing Science. (3)** Prerequisite(s): Admission to the Nursing major. An introduction to the theoretical and scientific basis of nursing practice, including an overview of the profession and examination of major concepts, theories, and models.

**NURS 3105. Concepts of Professional Nursing. (3)** Prerequisite(s): Admission to the Nursing major. Corequisite(s): NURS 3108. Concepts and standards fundamental to professional nursing practice. Explores the unique role of nursing in the healthcare system.

**NURS 3107. Pathophysiology: Clinical Concepts of Illness and Disease. (3)** Prerequisite(s): Admission to the Nursing major. Conceptual basis of alterations in physiological processes that disrupt or impair health and the body's response to illness and disease. Building on knowledge obtained in previous courses in the biological and social sciences, this course provides a foundation for building critical thinking skills in the differentiation of disease and illness.

**NURS 3108. Health Assessment and Application. (3)** Prerequisite(s): Admission to the Nursing major. Pre- or Corequisite(s): NURS 3105 and NURS 3107. Evaluation of human function using interview and physical examination data within a framework for clinical decision making. Competencies necessary for holistic health assessment across the lifespan.

**NURS 3205. Pharmacology in Health and Illness. (3)** Prerequisite(s): Admission to the Nursing major and NURS 3107 or permission of instructor. Presentation of the theoretical base for the safe and therapeutic use of drugs. Examination of Pharmacologic agents commonly used in health and illness and the standards and societal controls of drugs are explored.

**NURS 3230. Illness and Disease Management. (3)** Prerequisite(s): Admission to the Nursing major. Corequisite(s): NURS 3430. Focus on health promotion strategies and nursing interventions appropriate for planning care of adult clients with basic pathophysiological alterations.

**NURS 3250. Nursing Care of the Childbearing Family. (2)** Prerequisite(s): Junior 1 Nursing Courses. Corequisite(s): NURS 3440. Foundations of nursing care of families during the childbearing year. Emphasis on the nurse's role in health assessment, health promotion and promotion of adaptive processes of the individual and family during pregnancy, birth, transition to parenthood, and the newborn period, including alterations in health status.

**NURS 3260. Nursing Care of Children. (2)** Prerequisite(s): Junior 1 Nursing Courses. Corequisite(s): NURS 3440. Foundations of nursing care of children and families during the childrearing years. Emphasis on the nurse's role in health assessment, health promotion and promotion of adaptive processes of the child and family during childhood from infancy to adolescence, including alterations in health status.

**NURS 3425. Practicum in Concepts of Professional Nursing. (2)** Prerequisite(s): Admission to the Nursing Major. Corequisite(s): NURS 3105 and NURS 3108. This clinical course introduces the application of concepts, skills and values fundamental to professional nursing practice.

**NURS 3430. Practicum Illness and Disease Management. (3)** Prerequisite(s): Admission to the Nursing Major and NURS 3108. Pre- or Corequisite(s): NURS 3230. Clinical practice in healthcare settings that correlates with theoretical content related to basic pathophysiological alterations. Students will provide care in diverse clinical settings to develop psychomotor sills and apply knowledge in making clinical decisions.

**NURS 3440. Practicum in Nursing Care of Children and the Childbearing Family. (3)** Prerequisite(s): Admission to the Nursing Major and NURS 3108. Development of competencies essential for the nursing care of families during the childbearing and childrearing years. A variety of clinical experiences are provided, including community-based care, patient education, and in-patient care, with an emphasis on family-centered nursing practice.

**NURS 3700. Creating and Sustaining Change in Nursing. (2)** Prerequisite(s): Admission to Nursing major and Nursing honors program, and permission of the instructor. Introduces students to the use of outcomes data to assess the need for change, allows students to explore state and national databases to evaluate organizational quality outcomes, provides an overview of nursing and change theories to guide the process of change, and introduce methods of overcoming resistance to change. Students identify a topic, develop a PICOT question, conduct a review of the literature, and initiate a plan for implementing a small test of change, research, quality improvement, or health promotion project. Topics, question, literature review, and plan framework must be approved by course faculty.

**NURS 3895. Independent Study in Nursing. (1 to 4)** Prerequisite(s): Permission of instructor. Directed individual study in a selected aspect of nursing which is explored in greater depth than included in the planned curriculum. *May be repeated for credit with change of focus.* No more than six hours in NURS 3895 may be counted toward degree requirements.

**NURS 4000. Topics in Nursing. (1 to 3)** Prerequisite(s): Permission of instructor. Critical examination of selected current topics in nursing.

**NURS 4100. Nursing Care of the Aging Adult. (3)** Prerequisite(s): Senior standing in the Nursing Program. Examination of the processes of aging. Study of the nursing care for healthy, aging adults; frail, aging adults; institutionalized, aging adults; and dying, aging adults.

**NURS 4120. Psychiatric Mental Health Nursing. (3)** Prerequisite(s): Admission to the Nursing major, NURS 3430, and NURS 3440. Corequisite(s): NURS 4420. The foundation of Psychiatric Mental Health Nursing with emphasis on biopsychosocial content in the understanding and care of acute and chronic and chemically dependent clients.

**NURS 4130. Complex Illness and Disease Management. (3)** Prerequisite(s): Admission to the Nursing Major and NURS 3230. Corequisite(s): NURS 4430. Illness and disease management of adult patients with complex pathophysiological alterations. Focus is on care management of clients with complex and pathophysiological health needs.

**NURS 4203. Leadership and Informatics for Nursing Practice. (3)** Prerequisite(s): Admission to the Nursing Major. Corequisite(s): NURS 4450. Introduction to leadership focusing on healthcare systems and the nurse's role. Explore external and internal forces that affect the work environment and how to influence those forces. Discuss the work environment that best motivates people and creates an atmosphere that inspires, instills confidence and sustains individuals. Incorporate understanding of self to enhance beginning leadership.

**NURS 4240. Population Focused Nursing. (3)** Prerequisite(s): Admission to the Nursing Major. Corequisite(s): NURS 4440. Examination and analysis of concepts and theories related to care of populations. Focuses on health indicators and risk reduction in multiple groups across the lifespan and development of community partnerships within healthcare systems.

**NURS 4420. Practicum in Psychiatric Mental Health Nursing. (3)** Prerequisite(s): Admission to the Nursing Major. Corequisite(s): NURS 4120. Development of competencies necessary for the practice of psychiatric mental health nursing. Emphasis is on the use of self in relationships, psychiatric nursing assessment, nursing interventions with clients and working as a member of the healthcare team. A variety of clinical settings are used.

**NURS 4430. Practicum in Complex Illness and Disease Management. (3)** Prerequisite(s): Admission to the Nursing Major, NURS 3230, and NURS 3430. Corequisite(s): NURS 4130. Clinical practice in healthcare settings that correlate with theoretical content related to complex pathophysiological alterations. Students provide care in diverse clinical settings to continue to develop psychomotor skills and apply knowledge for clinical decision-making and reasoning.

**NURS 4440. Practicum in Population Focused Nursing. (2)** Prerequisite(s): Admission to the Nursing Major. Corequisite(s): NURS 4240. Development of competencies related to care of multiple populations. Clinical experiences occur in a variety of communities and agencies that provide opportunities for interdisciplinary experiences.

**NURS 4450. Design and Coordination of Care. (3)** Prerequisite(s): Admission to the Nursing Major and NURS 4430. Corequisite(s): NURS 4203. Clinical application of knowledge and skills in the design, management, and coordination of care for clients in a variety of healthcare settings. Precepted clinical experience with written clinical decision making projects.

**NURS 4600. Professional Nursing: Trends, Issues, and Licensure. (3)** Corequisite(s): NURS 4203 and NURS 4900. Current trends and issues that impact a variety of aspects of the nursing profession. Analysis of professional nursing practice in relation to current trends and issues. Required components for professional licensure in nursing, including preparation for the NCLEX-RN exam. Strategies for role transition from nursing student to professional nurse.

**NURS 4900. Research in Nursing Practice. (2)** Prerequisite(s): Admission to the Nursing Major. Exploration of research methodologies relative to nursing practice, with emphasis on research utilization and evidence-based practice.

## Operations and Supply Chain Management (OPER)

**OPER 3000. Topics in Operations Management. (3)** Prerequisite(s): OPER 3100 with grade of C or above. Topics from the areas of Operations Management. The course *May be repeated for credit.*

**OPER 3100. Operations Management. (3)** Prerequisite(s): ACCT 2121, ACCT 2122 or ACCT 3323, ECON 2101, ECON 2102, INFO 2130, MATH 1120, and STAT 1220 with grades of C or above; College of Business major; and Junior or Senior standing. Introduction to and development of the management functions in manufacturing and non-manufacturing organizations. A systems approach to the organizational environment, the basic operating functions, the problems and decisions a manager encounters and solution techniques and models. Computer applications are included where appropriate.

**OPER 3201. Operations Planning and Control. (3)** Prerequisite(s): OPER 3100 with grade of C or above; and Management Information Systems or Operations and Supply Chain Management major or minor, or permission of department. An in-depth study of production planning and control activities in an enterprise resource planning context. Topics covered include: forecasting, operations and capacity planning, master production scheduling, material requirements planning, production activity control, inventory management, and Just-in-Time inventory systems. The use of software to manage operations and the interactions between operations and other functional areas of a business will be emphasized.

**OPER 3203. Decision Modeling and Analysis. (3)** Prerequisite(s): OPER 3100 with grade of C or above; and Business Analytics, Management Information Systems, or Operations and Supply Chain Management major or minor, or permission of department. Analytical approach to understanding the management process and solving management problems with emphasis on model formulation, solution techniques, and interpretation of results. Topics include: techniques such as linear, integer, goal, and multi-objective programming; queuing theory and applications; decision support via Monte Carlo simulation; decision making under uncertainty and risk; decision trees; and multi-criteria decision making. Microsoft Excel is the main analytical tool.

**OPER 3204. Management of Service and Project Operations. (3)** Prerequisite(s): OPER 3100 with grade of C or above; and Management Information Systems or Operations and Supply Chain Management major or minor, or permission of department. Examines both strategic and operational decision making in service management with emphasis on the latter. Topics include: service strategy, designing new services, assessing and improving service quality, improving the efficiency and effectiveness of service processes, service process design and service facility location, managing waiting lines, managing service projects, and the integration of technology into service operations.

**OPER 3206. Quality Assurance and Management. (3)** Prerequisite(s): OPER 3100 with grade of C or above; and Management Information Systems or Operations and Supply Chain Management major or minor, or permission of department. A study of management philosophy, practices and analytical processes implemented in quality planning and administration of products and services. Topics include: corporate culture, quality design, human factors and motivation, quality cost analyses and auditing, service quality, quality assurance, quality circles, and conformance to design.

**OPER 3208. Supply Chain Management. (3)** Prerequisite(s): OPER 3100 with grade of C or above; and Management Information Systems or Operations and Supply Chain Management major or minor, or permission of department. A study of supply chain management concerned with all of the activities performed from the initial raw materials to the ultimate consumption of the finished product. Examines the major aspects of the supply chain: the product flows; the information flows; and the relationships among supply chain participants. Topics include: supply chain information technologies, supply chain design, strategic alliances between supply chain participants, and supply chain initiatives.

**OPER 3400. Operations and Supply Chain Management Internship. (3)** Prerequisite(s): Junior or Senior in good standing and department approval. Provides a meaningful work experience in the field of operations and/or supply chain management. Requires a minimum of 150 hours of supervised employment, 50 hours of work per credit hour. Students are responsible for securing internship and completing internship application and approval process prior to registering for the course. Internship must be approved by instructor. Application process and course registration must be completed prior to beginning internship. All proposals are subject to departmental approval. Students may not earn internship credit for work at a current employer. May be used to meet requirements of a major elective, up to a maximum of three credit hours. *May not be repeated for credit. Graded on a Pass/No Credit basis.*

**OPER 3500. Operations and Supply Chain Management Cooperative Education Experience. (0)** Prerequisite(s): Operations and Supply Chain Management major. Enrollment in this course is required for the department's cooperative education students during each semester they

are working in a position. Participating students pay a course registration fee for transcript notation. Assignments must be arranged and approved in advance. The Cooperative Education Program is only open to undergraduate students; graduate level students are encouraged to contact their academic departments to inquire about academic or industrial internship options for credit. For more information, contact the University Career Center. *Course may be repeated. Graded on a Satisfactory/Unsatisfactory basis.*

**OPER 3800. Directed Study. (1 to 6)** Prerequisite(s): Permission of department and Junior or Senior standing. Enrollment granted only by permission of the faculty with whom the work will be performed. The student's work assignments will be designed by the student and faculty member who will oversee the project of study. The credit hours will be determined prior to enrollment and will be based on the particular project undertaken.

# Operations Research (OPRS)

**OPRS 3111. Operations Research: Deterministic Models. (3)** Cross-listed Course(s): SEGR 3201. Prerequisite(s): MATH 1242 or MATH 2120; and MATH 2164. Linear, integer and dynamic programming, the simplex method, networks, PERT and CPM techniques, game theory, and applications.

**OPRS 3113. Operations Research: Probabilistic Models. (3)** Cross-listed Course(s): SEGR 3202. Prerequisite(s): MATH 1242 or MATH 2120; MATH 2164; and STAT 2122, STAT 3122, STAT 3128, or MATH 3122. Queuing models, inventory models, simulation, markov chains, decision analysis, game theory and probabilistic dynamic programming.

**OPRS 4113. Game Theory. (3)** Prerequisite(s): OPRS 3111; and MATH 3122, OPRS 3113, STAT 2122, or STAT 3122. The theory of zero-sum matrix games, mini-max theorem, optimal strategies, symmetric games, economic models, infinite, separable, polynomial, multi-stage, general-sum and in-person games. A project is required of all graduate students.

**OPRS 4114. Dynamic Programming. (3)** Prerequisite(s): ITCS 1214; OPRS 3111; and MATH 3122, OPRS 3113, STAT 2122, or STAT 3122. The identification of dynamic programming problems and their solution in terms of recurrence relations. Elementary path problems, resource allocation, shortest path, traveling salesmen problem, discrete-time optimal control, replacement models, and inventory systems. A project is required of all graduate students.

# Philosophy (PHIL)

**PHIL 1502. Global Arts/Humanities: Global and Comparative Philosophy. (3)** This Global Theme course uses the methods and insights of the arts and humanities to explore the central question of what it means to be a citizen of the world. Through the study of one or more different peoples, societies or cultures across the globe, students will be able to better understand themselves as part of a complex, interconnected world. This course introduces students to philosophical reflection and activity as sets of practices spanning a variety of historical, cultural, and national contexts. Students may explore questions such as how different cultures and communities understand and experience knowledge, ethics, injustice, death, humor, the self, or the good life.

**PHIL 1512. Local Arts/Humanities: Philosophy and Community. (3)** This Local Theme course uses the methods and insights of the arts and humanities to explore the central question of what it means to be a member of a "local" community. Through the study of the experiences of different peoples, societies, cultural traditions, and modes of expression in communities at the city, regional, or national level students will be able to better understand the complexity and diversity of the society in which we live. This course involves philosophical reflection on the processes and structures that shape how people live, struggle, and make progress together in a set of overlapping communities. Students may explore questions such as how different cultures and communities understand and experience love and sex, healthcare, technology, democracy, or freedom.

**PHIL 2100. Critical Thinking in Philosophy. (3)** Cross-listed Course(s): LEGL 1105. Fundamental skills of clear thinking that help students reason better during communication, problem-solving, and design, particularly as these integrate scientific/engineering efforts with social needs and values. Focuses on clarifying goals, identifying constraints, and generating and evaluating ideas or solutions.

**PHIL 2105. Deductive Logic. (3)** Cross-listed Course(s): LEGL 2105. Principles of deductive logic, both classical and symbolic, with emphasis on the use of formal logic in analysis of ordinary language discourse.

**PHIL 2220. Healthcare Ethics. (3)** Major ethical dilemmas within medical science and biology are examined to assist students to identify, analyze, and decide ethical issues in such a way that they can defend their positions to themselves and others. Issues include reproductive and genetic technology, death and dying, patient rights, and justice in distribution of healthcare benefits and burdens.

**PHIL 3009. Major Figure in Philosophy. (3)** An investigation into the thoughts and writings of a major figure in philosophy with special emphasis on primary sources. Included may be Plato, Aristotle, Descartes, Kant, Marx, Nietzsche, Heidegger, Quine, Davidson, Rawls, and others as indicated by departmental needs and interests. *May be repeated for credit.*

**PHIL 3019. Topics in History/Genealogy. (3)** Specific topics in the history/genealogy of philosophy. *May be repeated for credit with permission of department.*

**PHIL 3039. Topics in Ethics/Aesthetics. (3)** Specific topics in Ethics/Aesthetics. *May be repeated for credit with permission of department.*

**PHIL 3059. Topics in Knowledge/Language. (3)** Specific topics in the Knowledge/Language. *May be repeated for credit with permission of department.*

**PHIL 3079. Topics in Identity/Society. (3)** Specific topics in Identity/Society. *May be repeated for credit with permission of department.*

**PHIL 3201. Ancient Philosophy. (3)** Western intellectual and philosophic thought from the early Greeks to the post Aristotelian period,

often with an eye to issues in contemporary philosophy. Readings from the pre Socratics, Plato, Aristotle, Epicureans, Stoics, Skeptics, and Neoplatonists.

**PHIL 3202. Modern Philosophy. (3)** Modern philosophic and scientific thought from Descartes to Kant. Readings selected from representative works in the 17th and 18th centuries.

**PHIL 3203. Nineteenth-Century Philosophy. (3)** Examination of some central problems, issues, and methodologies of Nineteenth-Century Philosophy, including from some more contemporary perspectives, such as feminism. Examination may include: German Idealism (e.g., Fichte, Schelling, Hegel, Schopenhauer), Early Existentialism (e.g., Kierkegaard, Nietzsche), Early Phenomenology (e.g., Balzano, Brentano), Social Philosophy (e.g., Comte, Feuerbach, Bentham, Mill, Marx), and American Philosophy (e.g., Peirce, James, Washington, DuBois).

**PHIL 3204 Twentieth-Century Philosophy. (3)** Examination of some central problems, issues, and methodologies of Twentieth-Century Philosophy. Examination may include: pragmatism, phenomenology, logical analysis, existentialism, ordinary language philosophy, critical theory, hermeneutics, structuralism, or post-structuralism.

**PHIL 3211. Latin American Philosophy. (3)** A survey of central texts and movements within Latin American philosophy. Themes of the course include pre-colonial Indigenous metaphysics, political philosophy within conquest-era debates and nation-building projects, Afro-Latin American movements, Latin American feminist philosophy, and philosophical lessons from decolonial and anti-imperial projects across Latin America.

**PHIL 3212. American Philosophy. (3)** Analyzes the question of what constitutes American Philosophy, examining the interaction between America and philosophy and exploring some of the characteristics that may help contribute to the characterization of American Philosophy including: individualism, community, practicality, fallibility, and meliorism. Critically examines the narrative of American philosophy, focusing on pragmatism, America's distinctive contribution to philosophy, and assesses the role that American philosophy has, can, and should play concerning social and cultural issues in America.

**PHIL 3213. Existentialism. (3)** Existentialist tradition in philosophy and literature including such issues as: authenticity, absurdity and the meaning of life, freedom and morality, anguish, death, and atheism.

**PHIL 3221. Ethical Theory. (3)** Selective examination of major normative and metaethical theories that undergird our practical judgments about morally right actions and virtuous persons. Normative theories studied may include virtue ethics, deontology, consequentialism, and representative feminist theories. Metaethical theories studied may include cognitivism, expressivism, realism, and error theory.

**PHIL 3222. Environmental Ethics. (3)** Critical reflection on the relationship between humans and the natural world through a survey of philosophical perspectives on the environment. Topics may include the moral status of animals, our duties to future generations, whether nature is valuable independently of human needs and desires, sustainability and economics, environmental injustice, food ethics, and/or debates over climate change.

**PHIL 3223. Foundations of Ethics. (3)** You are a moral being. You reason with yourself and others about what you morally ought to do and you use moral language to express these thoughts and feelings. But when you step back from these phenomena and ask questions about them, you are not theorizing about ethics but about the foundations of ethics. You are engaged in what has come to be called "metaethics," the topic of this course.

**PHIL 3224. Data Ethics. (3)** Cross-listed Course(s): HCAI 3112. Study of ethical issues posed by the rise of big data and algorithmic systems. Topics may include privacy and surveillance, discrimination, methods of algorithmic governance, disability/access, artificial intelligence/machine learning, and critical theories of data.

**PHIL 3231. Aesthetics. (3)** Discussion and analysis of major theories of art ranging from historical figures (Plato, Aristotle, Hume, Kant, Nietzsche, and Dewey) to contemporary philosophers (Sontag, Danto, Kristeva, and Ranciere). Emphasis will be on the development of aesthetics in relation to the visual and performing arts, new media, and philosophy, but also in response to social-political-cultural issues, such as feminism, racism, and the like.

**PHIL 3241. Knowledge and Reality. (3)** An examination of interrelated issues concerning belief, justification, knowledge, and existence and the implications of these for broader philosophical issues. "Narrower" issues may include: What is the source of our beliefs? How do these sources affect our determinations of what fundamentally exists and what those things are like? How do our assumptions about what exists affect the objects and methods of knowing? When do beliefs become knowledge? Are there some things about the world that we cannot know about? Broader issues may include: What kind of thing is a mind or a self? How does such a thing fit into a natural world? What can non-human animals or computers tell us about intelligence? In what sense can collective entities engage in intentional behavior?

**PHIL 3242. Philosophy of Mind. (3)** An exploration of epistemological, metaphysical, and ethical questions concerning the mind. The main focus is on the possibility of integrating classic philosophical perspectives with contemporary research in cognitive science. Topics include: the descriptive/normative relation, the connection between philosophy and science, the plausibility of the mind and/or brain as a computational, symbol-manipulating system, including cases in which ethical consequences emerge from this orientation, and other topics such as consciousness, free will and determinism, logic and language, emotion and reasoning, and rationality.

**PHIL 3243. Philosophy of Religion. (3)** Cross-listed Course(s): RELS 3242. Philosophical implications of religious experience including the definitions, development, and diverse forms of the problems of belief and reason in modern thought.

**PHIL 3251. Advanced Logic. (3)** Advanced systems of logic, with emphasis upon symbolic logic and formal systematic characteristics such as axiomatics and proof techniques.

**PHIL 3252. Philosophy of Language. (3)** An inquiry into the nature of language and its use in actual practice. Discussion will focus on theories of meaning and their relations to the fields of logic and linguistics, and will address special topics such as linguistic creativity and linguistic violence.

**PHIL 3253. Science, Knowledge, and Values. (3)** Cross-listed Course(s): HCAI 3112. What is science, anyway? Is there a scientific method? Do values have a place in science? In this course we will deal with these questions and more. Topics may include distinguishing science from other forms of inquiry, how scientists model and explain phenomena, how new scientific theories emerge, and debates over the role of values in scientific research.

**PHIL 3254. History and Philosophy of Biology. (3)** How do genes and environments shape organisms? What is the relationship between biology and culture? What led Darwin to develop his theory of evolution in the first place? This class will examine these questions and more. Topics may include Darwin and his intellectual influences, debates over the causes of evolution, key concepts such as "organism" and "function," and the social implications of biological theories.

**PHIL 3255. Philosophy of Artificial Intelligence. (3)** Cross-listed Course(s): HCAI 3112. Artificial intelligence (AI) is reshaping how we live, work, govern, and understand ourselves. This course surveys selected philosophical questions raised by AI along with pressing ethical and political issues. Materials may include classic readings (e.g., Alan Turing, John Searle) and topics (e.g., consciousness and AI) as well as contemporary debates (e.g., AI alignment, AI and democracy). Readings for the course may be drawn not only from philosophy of technology but also from science and technology studies, gender studies, disability studies, sociology, etc. Students will be provided with the tools to address deeper questions about how technologies get constructed and why certain problems seem to recur in technoscientific fields. Technical details are introduced as needed and no coding is required.

**PHIL 3261. Feminist Philosophy. (3)** Cross-listed Course(s): WGST 3820. Overview of feminist critiques of the philosophical canon, contemporary feminist work on philosophical topics (e.g., feminist epistemology, feminist aesthetics, etc.), and philosophical work on topics such as gender, sexuality, and intersectionality. Critical race, postcolonial, and global feminisms will also be studied.

**PHIL 3262. Philosophy and Race. (3)** Cross-listed Course(s): AFRS 3262. Examines the role of the concept of race in the Western philosophical canon, and uses current philosophical texts and methods to examine Western discourses of race and racism. Issues such as whiteness, double consciousness, the black/white binary, Latino identity and race, ethnicity, mixed-race identity, and the intersection of race with gender and class are also examined.

**PHIL 3263. Philosophy and Disability. (3)** Introduction to a variety of philosophical issues surrounding disability. Topics may include definitions of disability, its social and material cultures, debates in bioethics, the epistemic status of disabled lived experiences, and the relationships between disability, technology, race, and gender.

**PHIL 3271. Social and Political Philosophy. (3)** Cross-listed Course(s): LEGL 3810 and POLS 3177. Examination of basic concepts involved in understanding the nature and structure of political and social formations. Issues may include topics such as justice, human rights, the nature of political power, and the relations between individuals and political/social institutions. Readings from historical and/or contemporary sources, and may include figures such as Plato, Hobbes, Marx, Rawls, Arendt, Foucault, and Butler.

**PHIL 3272. Philosophy of Technology. (3)** Cross-listed Course(s): HCAI 3112. Examination of basic concepts and controversies in philosophical discussions of technology. Issues may include relations between technology and nature; the impacts on and implications of technology for disability; technological determinism; the prospects for governance and/or democratic control of particular technologies; and normative issues such as the social and cultural derivations and uses of technological systems.

**PHIL 3273. Philosophy and the Body. (3)** Opportunity to explore the implications of the Eastern and Western philosophical literature on what the body means to individuals and societies. Philosophical readings about the body's relationship to the mind, politics, happiness, social interaction, and education will be explored through lecture, discussion, and writing.

**PHIL 3274. Philosophy of Education. (3)** Exploration of classic Western approaches to education and the contemporary moral problems faced by America's schools. Issues to be considered are the effect of race, class, and gender on school culture and teacher preparation.

**PHIL 3275. Hip Hop as Redescription. (3)** A philosophical examination of hip hop culture—its origins and evolution. Students will examine many aspects, ideas, and perspectives of and on hip hop, including beats, lyrics, race, authenticity, misogyny, homophobia, commercialism, and more. Students will read about hip hop, watch hip hop videos, listen to hip hop music, and maybe even make a little hip hop.

**PHIL 3279. Philosophy of Law. (3)** Philosophy underlying the legal system and the Anglo-American practice of law. Topics may include what is "law"; obligation to obey the law; liberty, privacy, and tolerance; and criminal responsibility and punishment.

**PHIL 3400. Internship in Ethics or Philosophy. (3)** Prerequisite(s): Philosophy major or minor; successful completion of 15 or more credit hours in Philosophy; and selection by department and host organization. Field experience can include on-site visits to host companies, corporations, or agencies to investigate or contribute to ethics codes, policies, culture, and/or practices and their philosophical relevance. Background research on challenges facing the host organization today. Final reports evaluated by faculty advisor and shared with the host organization.

**PHIL 3800. Independent Study. (1 to 3)** Prerequisite(s): Permission of department. Directed individual study of a philosophical issue, problem, or figure(s) of special interest to the student. For approval procedures, students should see the undergraduate coordinator. *May be repeated for credit with change of topic and permission of department.* No more than six hours may apply toward the Philosophy major.

**PHIL 4009. Major Figure in Philosophy. (3)** An investigation into the thoughts and writings of a major figure in philosophy with a special emphasis on primary sources. *May be repeated for credit with change of topic.*

**PHIL 4019. Advanced Topics in History/Genealogy. (3)** Advanced topics in the history/genealogy of philosophy. *May be repeated for credit with permission of department.*

**PHIL 4039. Advanced Topics in Ethics/Aesthetics. (3)** Advanced study of specific topics in ethics/aesthetics. *May be repeated for credit with permission of department.*

**PHIL 4059. Advanced Topics in Knowledge/Language. (3)** Advanced study of specific topics in the philosophy of knowledge/language. *May be repeated for credit with permission of department.*

**PHIL 4079. Advanced Topics in Identity/Society. (3)** Advanced study of specific topics in the philosophy of identity/society. *May be repeated for credit with permission of department.*

**PHIL 4170. Queer Theory. (3)** Introduction to key issues in queer theory, a field of studies that questions and redefines the identity politics of early lesbian and gay studies by investigating the socially constructed nature of identity and sexuality and critiquing normalizing ways of knowing and being.

**PHIL4230. After Auschwitz. (3)** Centers around what it means to "go on"—to live and function and think—as an agent and as a human being in a world "after Auschwitz," taken expansively to refer to an entire century of genocides, mass murder, extreme violence, and depredation. Our discussion may range across topics in ethics, aesthetics, politics, theology, or metaphysics. A central feature of the course will be to approach the issue in an expansive way, so as to be able to benefit from an array of perspectives (e.g., bringing together Holocaust studies and postcolonial theory, or genocide studies and critical theory).

**PHIL 4270. Indigenous Feminisms. (3)** Focuses on Indigenous feminist writings that both aim toward a constructive project of maintaining and respecting Indigenous ways of life and seek to address the detrimental consequences of U.S. and Canadian settler colonialism. We begin with a theoretical analysis of key concepts such as settler colonialism, Indigeneity, gender, and institutional racism. Using these key concepts, we then examine present-day colonial formations. Lastly, we examine state-based efforts to address the needs of Indigenous communities, as well as collective strategies of resistance practiced by Indigenous women.

**PHIL 4600. Senior Seminar. (3)** This capstone course provides an opportunity to develop or secure a philosophical literacy for those who will end their studies of philosophy with a B.A. and for those who are interested in pursuing a graduate degree in philosophy or a related field. The course will thus help advanced students integrate their studies in philosophy, pursue their individual philosophical interests in more depth, and study philosophical texts or issues that they have not yet had a chance to cover but that are important to a well-rounded education in philosophy. The focus in the seminar will be on contemporary philosophy, though a research project may involve more historical figures or issues.

**PHIL 4650. Dual Degree Senior Seminar. (3)** Prerequisite(s): Permission of department. A special section of the philosophy Senior Seminar which fulfills the capstone requirement for students pursuing a dual degree program. Students will independently complete a final philosophy project linked to the capstone project of their other degree program. Details vary depending on the dual degree program and the nature of the capstone project.

**PHIL 4700. Honors Senior Seminar. (3)** Prerequisite(s): Permission of department and approval of a proposal through the Honors College Application to Candidacy process the semester prior to taking the course. Cross-listed Course(s): PHIL 4600. An Honors section of the philosophy Senior Seminar which fulfills the capstone requirement for departmental honors in philosophy and the requirement for Senior Seminar for the philosophy BA. Students will conduct independent research on the philosophical topic approved on their Honors Application to Candidacy Form and produce an approximately 25 page research paper and deliver a live or video oral presentation based on that paper.

# Physics (PHYS)

**PHYS 1000. New Student Seminar. (1)** Prerequisite(s): Physics major. An introduction to the different disciplines within physics, professional opportunities available to physics majors in industry and academia, research interests of the department, and opportunities for student research in the department. This course is required for all Physics majors. Students present both a paper and a talk about physics to their peers and complete a plan of study for their undergraduate degree.

**PHYS 1100. Conceptual Physics. (3)** A discovery-oriented course which covers a broad spectrum of general physics at a conceptual level, making it a suitable science elective for liberal arts students. Topics include: states of matter, kinematics and dynamics of motion, force, energy and momentum, electricity and magnetism, waves, sound, and light.

**PHYS 1100L. Conceptual Physics Laboratory. (1)** Pre- or Corequisite(s): PHYS 1100. Laboratory investigations illustrating experimental techniques and fundamental principles of natural phenomena. Three laboratory hours each week.

**PHYS 1101. Introductory Physics I. (3)** Pre- or Corequisite(s): MATH 1100 or MATH 1101 as a prerequisite or MATH 1103, MATH 1120, MATH 1121, MATH 1241 or higher as a pre- or corequisite; an equivalent math test score may also be considered. First semester of a two semester algebra-based introductory sequence in physics. Introduction to the fundamental principles of natural phenomena. Topics include: kinematics and dynamics of particles, momentum, work, energy, conservation laws, and mechanics of rigid bodies. Knowledge of basic algebra and trigonometry is needed. Three lecture hours each week.

**PHYS 1101L. Introductory Physics I Laboratory. (1)** Pre- or Corequisite(s): PHYS 1101. Laboratory investigations illustrating experimental techniques and fundamental principles of natural phenomena. Three laboratory hours each week. *If a student has completed PHYS 2101L with grade of C or above in a previous semester, the student is exempted from taking PHYS 1101L.* Three contact hours.

**PHYS 1102. Introductory Physics II. (3)** Prerequisite(s): PHYS 1101 with grade of C or above. Second semester of the algebra-based introductory sequence in physics. An introduction to topics in electromagnetism, optics, and nuclear physics. A knowledge of basic algebra and trigonometry is needed for this course. Three lecture hours each week.

**PHYS 1102L. Introductory Physics II Laboratory. (1)** Prerequisite(s): PHYS 1101L or PHYS 2101L. Pre- or Corequisite(s): PHYS 1102. A continuation of PHYS 1101L. Three laboratory hours each week. *If a student has completed PHYS 2102L with grade of C or above* in *in a*

*previous semester, the student is exempted from taking PHYS 1102L.* Three contact hours.

**PHYS 1130. Introduction to Astronomy. (3)** Introduction to space science, including the historical beginnings of astronomy; motions of celestial bodies; the solar system; optical and radio astronomy; structure and evolution of stars; galaxies; and cosmology. Three lecture hours each week.

**PHYS 1130L. Introduction to Astronomy Laboratory. (1)** Pre- or Corequisite(s): PHYS 1130. Experimental investigations relating to the acquisition of and interpretation of astronomical data. Three contact hours.

**PHYS 1201. Sports and Physics. (3)** Fundamental physics concepts are introduced and discussed using only sports-related applications, primarily golf, baseball/softball, and auto racing. Specific physics concepts include forces, Newton's Laws, conservation of energy, conservation of linear momentum, conservation of angular momentum, Bernoulli's principle for fluid flow, centripetal force, vibrations and sound, and heat transfer. In addition, an understanding of materials characteristics are important to the discussions.

**PHYS 1201L. Sports and Physics Laboratory (1)** Corequisite(s): PHYS 1201. Experimental investigations illustrating the physical principals related to sports activities. Laboratories include analysis of the physics involved in activities such as basketball, baseball, golf, tennis, soccer, hockey, and football.

**PHYS 1202. Introduction to Physics in Medicine. (3)** An introductory level course that covers the basics physics principles behind technologies currently used in medicine. Examines topics in surgical instrumentation and medical imaging (e.g., the use of lasers in medicine, MRI, ultrasound, CT scanning, and nuclear medicine.) Three lecture hours each week.

**PHYS 1203. Physics of Music. (3)** Fundamental physics concepts are introduced related to the production and interpretation of sound in musical instruments and the human voice. Specific concepts include forces, kinematics, energy, pressure, simple harmonic motion, fluids, traveling and standing waves, and acoustics. Relationship of physical principles to notes, scales, melody, harmony, rhythm, loudness, pitch, timbre, musical instruments, room acoustics, and recording.

**PHYS 1203L. Physics of Music Laboratory. (1)** Corequisite(s): PHYS 1203. Laboratory component covering topics introduced in PHYS 1203. Laboratories include the design and construction of wind and string instruments and percussion.

**PHYS 1204. Light Phenomena and Technologies. (3)** Introductory course that focuses on natural light phenomena and basic knowledge of light based-technologies. Topics include light's properties, light sources and detectors, optical instruments (cameras, telescopes, microscopes and more), the human eye, light in nature (why the sky is blue? The colors of starts, bioluminescence, etc.), light-based technologies (telecommunication, solar sensors, etc.), and research in optics at UNC Charlotte.

**PHYS 2101. Physics for Science and Engineering I. (3)** Pre- or Co-requisite(s): MATH 1241 with grade of C or above. First semester of a two-semester calculus-based introductory sequence in general physics. Topics include: kinematics and dynamics of particles, momentum, work, energy, conservation laws, simple harmonic motion, and mechanics of rigid bodies. Three lecture hours each week.

**PHYS 2101L. Physics for Science and Engineering I Laboratory. (1)** Pre- or Corequisite(s): PHYS 2101. Experiments selected from motion on an inclined plane, circular motion, momentum and energy in collisions, torques, and conservation laws. Use of the computer for organizing, graphing and analyzing data. If a student has completed PHYS 1101L with grade of C or above in a previous semester, the student is exempted from taking PHYS 2101L. Two laboratory hours each week. Three contact hours.

**PHYS 2102. Physics for Science and Engineering II. (3)** Prerequisite(s): PHYS 2101 with grade of C or above. Pre- or Corequisite(s): MATH 1242 with grade of C or above. Second semester of the calculus-based introductory sequence in general physics. Topics include: electric charge, electric fields, and magnetic fields. Three lecture hours each week.

**PHYS 2102L. Physics for Science and Engineering II Laboratory. (1)** Prerequisite(s): PHYS 2101L (or 1101L). Pre- or Corequisite(s): PHYS 2102. A continuation of PHYS 2101L. Experiments selected from series and parallel circuits, RC circuits, EMF and terminal potential difference, electromagnets, and magnetic induction. If a student has completed PHYS 1102L with grade of C or above in a previous semester, the student is exempted from taking PHYS 2102L. Two laboratory hours each week. Three contact hours.

**PHYS 2601. Practical Seminar: CAD/CAM, 3D Printing, and Additive Manufacturing. (1)** Prerequisite(s): PHYS Majors only. Enrollment capped at 10 students. Students will learn computer aided design (CAD) software, the latest 3D printing technology and advancements in the field, and 3D printing skills for computer aided manufacturing (CAM).

**PHYS 2602. Practical Seminar: Optical Fiber Components and Applications. (1)** Prerequisite(s): PHYS Majors only. Enrollment capped at 10 students. Students will learn how fiber optics work, their specific properties, and how to strip, cleave, polish, fusion splice, connectorize, and align fibers, including single mode and multimode fibers. Numerous industrial applications of fiber optics will also be described, ranging from telecommunications to laser surgery.

**PHYS 2603. Practical Seminar: Cleanroom Microlithography. (1)** Prerequisite(s): Open to PHYS majors only. Enrollment capped at 10 students. Students will learn how to use specialized cleanroom equipment for producing micro and nano optical materials, including all the steps for performing micro-lithography.

**PHYS 2604. Practical Seminar: Microelectronic Controllers. (1)** Prerequisite(s): Open to PHYS majors only. Enrollment capped at 10 students. Students will learn how to program microelectronic controllers (e.g. Arduino) for performing specific tasks involving light, sound, and motion control, and integrate these boards into larger systems.

**PHYS 3101. Topics and Methods of General Physics. (3)** Prerequisite(s): PHYS 2102 and MATH 1242 with grades of C or above. Integration of mathematical concepts with basic physical principals. Physics topics chosen from material covered in PHYS 2101 and PHYS

2102. Mathematical concepts include: approximation methods, integration and differentiation, vector algebra, and coordinate systems. Exercises and problems emphasize topics traditionally challenging to beginning physics students. An emphasis is placed on developing additional background and problem solving skills necessary for students to succeed in upper-division physics courses.

**PHYS 3102. Physics for Science and Engineering III. (3)** Prerequisite(s): PHYS 2102. Pre- or Corequisite(s): MATH 2171, MATH 2241, or PHYS 3101. Introduction to additional topics in physics, including wave motion, geometrical and physical optics, electromagnetic waves, and thermodynamics. An emphasis is placed on developing additional background and problem-solving skills to succeed in upper-level physics courses.

**PHYS 3121. Classical Mechanics I. (3)** Prerequisite(s): PHYS 3101 or ECGR 2112; and MATH 2171 or MATH 2241; both with grades of C or above. Pre- or Corequisite(s): MATH 2241. Topics include: Newtonian mechanics, kinetic energy, work and potential energy, harmonic oscillators, projectiles and charged particles without and with viscous friction, linear and angular momentum, vector algebra and coordinate transformations, Taylor expansions, mathematical analysis using complex numbers, Fourier series analysis of vibrational motions.

**PHYS 3141. Introduction to Modern Physics. (3)** Prerequisite(s): PHYS 2102 or PHYS 1102; and MATH 1241; both with grade of C or above. Pre- or Corequisite(s): MATH 1242. Topics include: Special relativity, quantization of charge, light, and energy, the nuclear atom, wavelike properties of particles, introduction to nuclear reactions and applications, introduction to solid state physics, and introduction to particle physics.

**PHYS 3160. Stellar Astrophysics. (3)** Prerequisite(s): PHYS 3141; and MATH 2171 or MATH 2241; or permission of instructor. An introduction to stellar structure and evolution. Topics include: observational techniques, the interaction of light and matter, spectral classification, stellar structure and energy transport, nuclear energy sources, evolution off the main sequence, variable stars, and stellar remnants.

**PHYS 3210. Introduction to Computational Physics. (3)** Prerequisite(s): PHYS 2102; and MATH 2171 or MATH 2241; both with grades of C or above. Building on elementary concepts in physics, an introduction to how computers are used to solve physics problems is given. Skills in programming will be developed in the context of applying computational methods to calculate a variety of physical properties found in mechanics and electrodynamics. Techniques for simulating and visualizing the behavior of systems ranging in complexity starting from a single particle, to a few, to many particles are introduced. Also covered are methods for data analysis, including fitting and plotting results graphically that best highlight physical relationships between variables.

**PHYS 3220. Mathematical Methods in Physics. (3)** Prerequisite(s): PHYS 2102, PHYS 3101, and MATH 2241 with grades of C or above. Pre- or Corequisite(s): MEGR 3121 (Optional for PHYS/MEGR dual majors in place of PHYS 3101 prerequisite). Topics include: Vectors and matrices, waves and Fourier analysis, partial differential equations and boundary value problems, and complex variables.

**PHYS 3282. Advanced Laboratory in Modern Physics. (3)** Pre- or Corequisite(s): PHYS 3141 with grade of C or above. Selected laboratory work in areas such as atomic spectra, radioactive decay, and the interaction of radiation with matter. Emphasis on development of sound laboratory techniques, methods of data analysis, oral communication of results, and the writing of formal laboratory reports. Three hours of laboratory each week.

**PHYS 3283. Advanced Laboratory in Classical Physics. (3)** Prerequisite(s): PHYS 2102 and 2102L with grades of C or above. Selected laboratory work in areas such as mechanics, electricity and magnetism, acoustics and thermal physics. Topics are chosen for their relation to important principles and techniques, or for their historical significance. Emphasis on development of sound laboratory techniques, methods of data analysis, and the writing of formal laboratory reports. Three hours of laboratory each week.

**PHYS 3400. Internship in Industry or Research Lab. (3)** Prerequisite(s): Junior or Senior standing, acceptance into the internship program and approval by the Physics department. *Graded on a Pass/No Credit basis.*

**PHYS 3500. Physics Cooperative Education Experience. (0)** Prerequisite(s): Completion of 30 credit hours at UNC Charlotte (transfer students must complete 12 credit hours), a minimum GPA of 2.5 for co-op students, good standing with the University, and permission of department. Registration in this course is required of co-op students during each of the semesters they are working. Participating students pay a course registration fee for transcript notation. Assignments must be arranged and approved in advance. The Cooperative Education Program is only open to undergraduate students; graduate level students are encouraged to contact their academic departments to inquire about academic or industrial internship options for credit. For more information, contact the University Career Center. *Course may be repeated. Graded on a Satisfactory/Unsatisfactory basis.*

**PHYS 3900. Undergraduate Research. (1 to 3)** Prerequisite(s): PHYS 3282; PHYS 3283; permission of Departmental Undergraduate Research Coordinator; and, when taken for honors credit, approval of a proposal through the Honors College Application to Candidacy process the semester prior to taking the course. Independent research experience under the supervision of faculty member. *May be repeated for credit one time with permission of department.* Up to three credit hours of PHYS 3900 may be applied toward the physics degree requirement of "additional PHYS hours at the 3000/4000 level" with approval of the Departmental Undergraduate Research Coordinator.

**PHYS 4000. Selected Topics in Physics. (1 to 4)** Prerequisite(s): Permission of department. Advanced special topics. May not be applied toward the degree requirements for "additional hours at the 3000/4000 level" without approval of the departmental Undergraduate Studies Committee. *May be repeated for credit.*

**PHYS 4105. Fundamentals of Physics Teaching. (1)** This is a 1 credit hour course intended to prepare students for the multitude of challenges and responsibilities as a Undergraduate (UG) Teaching Assistant (TA) for the Department of Physics and Optical Sciences. The class is designed for first time TAs and will introduce Physics teaching techniques and approaches and provide resources to enhance students' learning and classroom engagement. The course is designed to help students develop equitable, evidence based and student-centered teaching practices. This course uses Canvas as a learning management system.

**PHYS 4110. Introduction to Biomedical Optics. (3)** Prerequisite(s): PHYS 3141; and MATH 2171 or MATH 2241; both with grades of C or above. Pre- or Corequisite(s): PHYS 3121 or MEGR 2144. The basic principles underlying tissue optics, laser-tissue interactions, and optical imaging, microscopy, and spectroscopy for medical applications.

**PHYS 4140. Nuclear Physics. (3)** Prerequisite(s): PHYS 3141; and MATH 2171 or MATH 2241; both with grades of C or above. A study of the nucleus, radioactivity, nuclear reactions, fission, fusion, interactions of radiation with matter and measurement of radiation.

**PHYS 4151. Thermal Physics. (3)** Cross-listed Course(s): PHYS 5151. Prerequisite(s): PHYS 3141 and PHYS 3101 with grades of C or above; CHEM 1251, CHEM 1251L, and MATH 2241. An introduction to heat, thermodynamics, kinetic theory, and statistical physics. Topics include: classical thermodynamics, Maxwell-Boltzmann, Fermi-Dirac and Bose-Einstein distributions. Three lecture hours a week.

**PHYS 4181. Solid State Physics. (3)** Cross-listed Course(s): PHYS 5181. Prerequisite(s): PHYS 3141 or permission of department. An introduction to solid-state physics. Topics include: crystal structures, reciprocal lattices, phonons, free electron Fermi gases, band structures, and electrical, magnetic, and optical properties of metals, semiconductors, and insulators. Three lecture hours each week.

**PHYS 4222. Classical Mechanics II. (3)** Prerequisite(s): PHYS 3121 and MATH 2241. Continuation of PHYS 3121. Topics include: Lagrangian mechanics, two-body central force problems, coupled oscillators and normal modes, Hamiltonian mechanics, non-inertial frames, rigid body motion.

**PHYS 4231. Electromagnetic Theory I. (3)** Prerequisite(s): PHYS 3121 or MEGR 2144; PHYS 3220 or MATH 2242; and MATH 2171 or MATH 2241; all with grades of C or above. The first course of a two-semester sequence. Topics include: Review of Vector Algebra & Calculus, Electrostatics, Electric Potential, Electric Field in Matter, Magnetostatics and Magnetic Field in Matter.

**PHYS 4232. Electromagnetic Theory II. (3)** Prerequisite(s): PHYS 4231 with grade of C or above. A continuation of PHYS 4231. Topics include: Review of Vector Algebra & Calculus, Electrodynamics, Electromagnetic Energy and Momentum Conservation, Poynting Theorem, Electromagnetic Waves, and Radiation.

**PHYS 4241. Quantum Mechanics I. (3)** Prerequisite(s): PHYS 3220 or MATH 2241; PHYS 3121 or MEGR 2144; PHYS 3141; and MATH 2171 or PHYS 3101; all with grades of C or above. Topics include: blackbody radiation, solutions of the time-independent Schrodinger equation, unbound and bound states, the infinite square well, the harmonic oscillator, the hydrogen atom, spin operators, and the Stern-Gerlach experiment.

**PHYS 4242. Quantum Mechanics II. (3)** Prerequisite(s): PHYS 4241 with grade of C or above. A continuation of PHYS 4241. Topics include: perturbation theory, atoms in external electric and magnetic fields, the Stark and Zeeman effects, the WKB approximation, selection rules for electromagnetic radiation, scattering theory, multi-electron atoms, and electrons in solids, Bose-Einstein and Fermi-Dirac distributions.

**PHYS 4271. Waves and Optics. (3)** Prerequisite(s): MATH 2171 or PHYS 3101 with grade of C or above. Pre- or Corequisite(s): PHYS 3121 or MEGR 2144. Topics include: ray analysis of common optical elements, wave properties of light, the superposition of periodic and non-periodic waves, and selected topics from geometrical and physical optics.

**PHYS 4281. Advanced Laboratory in Modern Optics. (3)** Prerequisite(s): PHYS 3121 or MEGR 2144; PHYS 3141; and PHYS 3282 with grades of C or above. Selected experiments on topics such as fiber optics, interferometry, spectroscopy, polarization, and holography. Emphasis on the development of sound laboratory techniques, methods of data analysis, and the writing of formal laboratory reports. Six hours of laboratory each week.

# Political Science (POLS)

**POLS 1110. American Politics. (3)** Introduction to the role of the President, Congress, Supreme Court, and national administrative agencies in the American political system. Relationship between the American people and their political institutions with emphasis on political culture, the electoral process, political parties, interest groups, and political communication. *May not be taken for credit and for a grade if credit has been received for POLS 1575.*

**POLS 1130. Comparative Politics. (3)** Introduction to political comparison among nations. Diverse geographical emphases, including Latin America, Europe, Asia, and Africa. *May not be taken for credit and for a grade if credit has been received for POLS 1501.*

**POLS 1150. International Politics. (3)** Introduction to the analysis of politics among nations: Material and psychological sources of national power; the role of law, force, and diplomacy in world politics; problems of peace and disarmament; and international organization.

**POLS 1170. Introduction to Political Philosophy. (3)** Survey course that includes an introduction to recognized major political thinkers such as Plato, Aristotle, Hobbes, Locke, Rousseau, and Marx. Included are other politically influential writers such as Confucius, Mary Wollstonecraft, and Martin Luther King.

**POLS 1501. Global Social Science: Introduction to Comparative Politics. (3)** This Global Theme course uses the methods and insights of the social sciences to explore the central question of what it means to be a citizen of the world. Through the study of one or more different peoples, societies or cultures across the globe, students will be able to better understand themselves as part of a complex, interconnected world. Students learn basic concepts in comparative politics by examining politics and political institutions across a range of countries in Latin America, Europe, Asia, and Africa. Students investigate how economic, political, and social variables influence the likelihood of democratization, economic growth, civil conflict, social empowerment, and related outcomes. *May not be taken for credit and for a grade if credit has been received for POLS 1130.*

**POLS 1575. Foundations of American Democracy. (3)** T This Foundations for American Democracy Course uses the methods and insights of social sciences, combined with American historical documents including the Declaration of Independence, U.S. Constitution,

select Federalist Papers, Gettysburg Address, Emancipation Proclamation, and Letter from a Birmingham Jail, to explore central questions related to American democracy. POLS 1575 introduces students to the central principles of political science through an examination of how the U.S. political system processes the variety of public preferences through elections and government institutions into public policy. *Fulfills the General Education Foundations of American Democracy requirement. May not be taken for credit and for a grade if credit has been received for POLS 1110 or POLS 1511.*

**POLS 2120. Introduction to Public Policy. (3)** Provides an overview of the policy process in the U.S. focusing on how public problems arise, how they get on the agenda of government, how and why the government responds or fails to respond, defining public policy, explaining how it is made, and who makes it.

**POLS 2220. Political Science Methods. (4)** Prerequisite(s): Political Science major; at least one introductory POLS course and MATH 1100 or MATH 1101 or equivalent. This course builds the knowledge skills ability (KSA) of students, in other words increases their information literacy. Emphasis on how to do literature searches, write professional papers as political scientists, understand and calculate statistics, and manipulate data with computer statistical packages. Recommended to be taken before majors begin to take upper-level courses. Three hours of lecture and one hour of computer laboratory per week.

**POLS 3010. Topics in American Politics or Public Administration. (1 to 4)** An intensive study of a topic in American politics or public administration. The particular topic investigated may vary from semester to semester, and a student may take more than one course under this number.

**POLS 3030. Topics in Comparative or International Politics. (1 to 4)** An intensive study of a topic in comparative or international politics. *May be repeated for credit with change of topic.*

**POLS 3070. Topics in Political or Legal Philosophy. (3)** Analysis of a selected problem in contemporary political philosophy, legal philosophy, or in the history of political philosophy. Includes moral and ethical evaluation of political and social practices and institutions. Readings from classic texts or contemporary works. Topic for consideration changes from semester to semester. *May be repeated for credit with permission of instructor.*

**POLS 3103. Public Opinion. (3)** A study of attitude and opinion measurement with emphasis on the techniques of survey research and public opinion polling and conservative and liberal tendencies in American public opinion and society.

**POLS 3104. Mass Media. (3)** An examination of the relationship of mass media to politics and government. Government regulation of the media and how the mass media shape political information and behavior.

**POLS 3105. Voting and Elections. (3)** Psychological, sociological, and political variables that influence voting behavior and that affect electoral stability and change with emphasis on studies derived from survey research.

**POLS 3108. Social Movements and Interest Groups. (3)** Analysis of the nature of social movements and interest groups and their role in the American political system. Emphasis on membership recruitment and mobilization, campaigns, lobbying, and influence on parties, public opinion, and public policy. Evaluation of the extent to which these organizations enhance the voices of ordinary citizens versus those of corporations and citizens of high social status.

**POLS 3109. Political Parties. (3)** Analysis of the role of political parties in the American political system. Emphasis on party organizations, nominations, campaigns, interrelation with interest groups and social movements, and the role of parties in the executive, legislative, and judicial arenas.

**POLS 3111. The Congress. (3)** Analysis of the role of the Congress in the American political system and its relationships with the other branches of government. Recruitment and socialization of congressmen, the committee system, and roll call analysis.

**POLS 3112. The Presidency. (3)** Analysis of the role of the Presidency in the American political system and its relationships with the other branches of government. Strategies of presidential nomination and election, the sources and indicators of presidential power, and how those who have held the office have shaped it and been shaped by it.

**POLS 3114. Constitutional Law and Policy. (3)** Cross-listed Course(s): LEGL 3113. Development of American constitutionalism (especially federalism and the separation of powers) with major emphasis on constitutional law as a form of public policy and the U.S. Supreme Court as a policy maker.

**POLS 3115. Civil Rights and Liberties. (3)** Cross-listed Course(s): LEGL 3115. Utilizes public policy analysis to illuminate judicial decisions and opinions relating to contemporary civil rights and liberties.

**POLS 3116. Judicial Process. (3)** Cross-listed Course(s): LEGL 3116. Introduction to the nature and functions of law; survey of Supreme Court decision making.

**POLS 3117. Gender and the Law. (3)** Cross-listed Course(s): LEGL 3117. Examines the role gender plays in various aspects of the legal system in the United States. Topics include: the statutory and constitutional provisions that govern discrimination based on gender (e.g., Title VII, the 14th Amendment Equal protection clause) and the role that gender plays in judicial decision making (e.g., the influence of judge, attorney, party, and juror gender on legal outcomes).

**POLS 3119. State and Local Government. (3)** An introduction to state and local governments, politics, and policies in the United States. Particular attention is paid to state and local government in North Carolina.

**POLS 3121. Urban Politics and Policy. (3)** Political analysis of a variety of public policy problems in urban areas and proposals to solve them. Attention will be paid to both the substance of the urban policy problem and ways to evaluate alternative solutions.

**POLS 3123. Urban Political Geography. (3)** Spatial organization of metropolitan America. How metropolitan residents organize space into territorial units and the human, social, and political ramifications of that organization. Spatial consequences of the most common modes of political, administrative, and territorial organization.

**POLS 3124. U.S. Domestic Policy. (3)** Examination of the processes of and influences on policy making, including goals and objectives of current U.S. domestic policy. Focus on major policy areas; may include such topics as fiscal and monetary policy, education, transportation, management of national economy, and agriculture, among others.

**POLS 3125. Healthcare Policy. (3)** An overview of the development and current functioning of U. S. healthcare system and public policies regarding the organization, delivery and financing of healthcare at the federal, state, and local levels.

**POLS 3126. Introduction to Public Administration. (3)** The role of the administrator and public bureaucracy in modern democratic society, with emphasis on the interplay of forces created by executives, legislators, political parties, and interest groups.

**POLS 3127. Public Service in Nonprofit Organizations. (3)** Basic introduction to the nonprofit sector and the nature and contributions of the nonprofit sector in the United States. Basic management issues in nonprofit organizations. Highlights the unique contribution and challenges of nonprofits working in different service areas.

**POLS 3128. Politics and Film. (3)** Examination of the influence and role of film in American politics. Movies provide important cues about cultures, values, and society, and affect how people perceive or view their environment. Explores and analyzes the images and messages conveyed about American politics, and develops understanding of the role of film in American politics. Requires viewing films in class, discussion, and writing about the films.

**POLS 3132. Comparative Public Policy. (3)** Examination of the policy process and policy outcomes in the United States and other countries. Analyzes policy areas in depth to determine the role that variations in policy culture and political institutions play in shaping policy choices. Examines the possibility and limitations of transferring policy innovation from one polity to another.

**POLS 3133. Middle East Politics (3)** Political development of Middle Eastern states from the period of European colonization to today. Topics include: Arab nationalism, Islamism, the Palestinian-Israeli conflict, democratization, oil and economic development and regional security.

**POLS 3135. Terrorism. (3)** Addresses four basic questions: (1) What is terrorism? (2) Why does it occur? (3) How does terrorism network? (4) What are the legal, political, and military coping strategies for terrorism? Emphasis on building an understanding of the nature and root causes of terrorism, and understanding the behavioral and psychological framework of terrorism and responses to it.

**POLS 3137. International Human Rights. (3)** Cross-listed Course(s): GLST 3137 and LEGL 3137. Introduces students to the historical foundations and current practices of the international human rights regime. Discussions center primarily on three topics: 1) the conceptual and historical origins of the international regime designed to protect human rights, 2) patterns of and explanations for human rights violations over time and space, and 3) potential international and domestic solutions to protect human rights. During the discussion of these topics, students learn about contemporary issues in human rights, as well as how theory applies to current events and individual cases.

**POLS 3139. Civil Wars and Political Violence. (3)** Most large-scale political violence in recent decades takes the form of civil wars fought largely within countries. This course analyzes the conditions under which such conflicts are most likely to occur, their consequences for civilians, and steps that can be taken to promote their durable resolution.

**POLS 3141. European Politics. (3)** Comparative analysis of selected European governments including Great Britain, France, Germany, and Italy.

**POLS 3143. African Politics. (3)** A comparative perspective on politics in Sub-Saharan Africa and on the performance of post-independence political systems there in terms of national and international integration, economic challenges, and efforts to create stable and democratic civilian regimes.

**POLS 3144. Latin American Politics. (3)** Cross-listed Course(s): LTAM 3144. Comparative overview of political and socio-economic change in Latin America from the colonial period to the present. Primary emphasis on Latin American politics in the twentieth century, competing political ideologies, socio-economic issues, international political economy, and internal political change.

**POLS 3148. Chinese Politics. (3)** The origins, development, and maintenance of the Chinese political system. The organization and function of the Chinese Communist Party (CCP) and other political groups. The impact of tradition on contemporary Chinese politics.

**POLS 3151. International Political Economy. (3)** Cross-listed Course(s): GLST 3151. An analysis of the political dynamics of economic relationships among countries. Attention is focused on the political aspects of monetary, trade, and investment relationships, and the difficulties involved in coordinating policy and maintaining effective international management.

**POLS 3152. International Organizations. (3)** An analysis of the development and functions of formal and informal organizations that govern international politics and markets, including the United Nations system, economic and non-governmental organizations, and regional institutions.

**POLS 3153. European Union. (3)** An analysis of the European Union (EU) from historical, political, and economic perspectives. Emphasis on the institution's actors (especially states and interest groups) and policies of the EU as well as the changing relationship between the EU and its major trading partners such as the U.S.

**POLS 3154. Cyberspace and Politics. (3)** Examination of the advent of information technologies and digital communication in the global community and the impact of these changes on multi-level politics--international, regional, national, and sub-national. Four major themes are: exploration of the digital world, cyberspace governance and public policy, electronic government and virtual citizenship, and cyberspace expansion and global reach. Taught mainly as a web-based course.

**POLS 3155. Latin American Political Economy. (3)** Cross-listed Course(s): LTAM 3154. Intersections of politics and economics in Latin America, focusing on the efforts to foster economic development in the

region. Emphasis on post-World War II era. Includes issues such as debt management, dependency theory, impact of free market theories, and the power of labor movements.

**POLS 3157. American Foreign and Defense Policy. (3)** Examines constitutional provisions for foreign policy in the United States, analyzes the formulation and implementation of American foreign policy, and surveys key defense and security policy issues facing the United States.

**POLS 3159. Diplomacy in a Changing World. (3)** Cross-listed Course(s): GLST 3131. Diplomacy, a means to resolve disputes between sovereign states short of war, is analyzed through case studies drawn from historical context and through a survey of contemporary crises. The American diplomatic process is also reviewed with particular attention to how policy is shaped, how an embassy functions, and how Americans train for the professional diplomatic service.

**POLS 3162. International Law. (3)** Cross-listed Course(s): LEGL 3162. Historical and political analysis of the sources and development of international law. Particular attention is given to the role of modern international law in the relations of nation-states and its application to contemporary global problems.

**POLS 3163. Introduction to Model United Nations. (3)** Preparation for and participation in the Model United Nations (simulation of the United Nations) for students who have not participated in this simulation previously. Includes study of the background of countries to be represented; the history, structure and procedures of the United Nations; drafting of resolutions and position papers; public speaking and caucusing; participation in regional MUN events.

**POLS 3164. U.S.-Latin American Relations. (3)** Cross-listed Course(s): LTAM 3164. Addresses the always-complicated and often-conflictive relationship between Latin American and the United States. Particular attention to critical contemporary issues such as the drug trade, immigration, international trade, humanitarian aid and U.S. policy toward Cuba.

**POLS 3165. East Asia in World Affairs. (3)** Examines the political factors governing diplomatic relations, national order, economic trade, and national security in East Asia. Emphasis on China, Taiwan, Hong Kong, Japan, the Korean peninsula, and the Philippines.

**POLS 3166. Politics of the Islamic World. (3)** Political development of and current political trends within countries of North and East Africa, the Middle East, Central Asia, and South and Southeast Asia that make up the Islamic World. Topics include: the diverse body of Islamic political thought, manifestation of Islamic political thought in contemporary countries and movements, a discussion of how Islamic societies handle diversity and the issue of democratic rule, and the political development of the growing Muslim minority community in the West.

**POLS 3169. African International Relations. (3)** Cross-listed Course(s): AFRS 4105. Examines Africa's relations with external powers (including Europe, the United States, and China), cooperation among African countries, the role of non-state actors in African conflicts, and U.S. policy toward the continent.

**POLS 3171. History of Classical Political Philosophy. (3)** Major concepts and systems of political philosophy of Ancient Greece and Rome.

**POLS 3172. African American Political Philosophy. (3)** Cross-listed Course(s): AFRS 3179. Prerequisite(s): 3000-level course on Africa from AFRS, HIST, or POLS. Major competing ideologies in African American political philosophy.

**POLS 3173. History of Modern Political Philosophy. (3)** Major concepts and systems of western political philosophy from the 16th-19th centuries.

**POLS 3175. Philosophy of Law. (3)** Cross-listed Course(s): LEGL 3175. Philosophy underlying the legal system and the Anglo-American practice of law. Topics include: what is "law;" obligation to obey the law, liberty, privacy and tolerance; and criminal responsibility and punishment.

**POLS 3176. Fascism and Communism. (3)** Considers the philosophies of fascism and communism and those political theorists who contributed to these two twentieth-century movements. Focuses on the implementation of these theories in nations such as Italy, Germany, the Soviet Union, and China.

**POLS 3177. Social and Political Philosophy. (3)** Cross-listed Course(s): LEGL 3810 and PHIL 3271. Philosophical concepts involved in understanding and evaluating the basic structure of societies (e.g., economic, educational, legal, motivational, and political) including equality, fraternity, freedom, and rights. Relevance to contemporary social and political issues stressed. Readings from classical and contemporary sources.

**POLS 3250. Political Sociology. (3)** Cross-listed Course(s): SOCY 3250. Prerequisite(s): SOCY 1101. Sociological analysis of the relationship between social, economic and political systems. Focuses on power relations in society and its effects on the distribution of scarce resources. Topics covered may include: theories of power and the nation state, political participation and voting, religion and politics, the comparative welfare state, media and ideology, the global economy, war and genocide, revolutions, and social movements. Not open to students who have credit for POLS 3251.

**POLS 3251. Political Sociology. (3)** Prerequisite(s): SOCY 1101. Sociological analysis of the relationship between social, economic and political systems. Focuses on power relations in society and its effects on the distribution of scarce resources. Topics covered may include: theories of power and the nation state, political participation and voting, religion and politics, the comparative welfare state, media and ideology, the global economy, war and genocide, revolutions, and social movements. Not open to students who have credit for SOCY 3250 or POLS 3250.

**POLS 3380. Security and Intelligence in a Democratic Society. (3)** Examines roles, missions, and methods of the U.S. intelligence community. Topics include: collection, analysis, politicization of intelligence, sharing intelligence, interactions between the intelligence community and elected officials, covert action, and ethical issues.

**POLS 3381. Critical Thinking Skills for Security and Intelligence. (3)** Reviews the intelligence analysis process, the environment in which it is

conducted, analytic tradecraft standards, and challenges facing today's intelligence analyst, and teaches structured analytic techniques through a series of case studies and team-based exercises.

**POLS 3382. Analytic Writing and Briefing. (3)** The instruction of clear, concise, and persuasive writing and briefing for policy making, forecasting, and intelligence analysis. Overview of the policymaking process and intelligence cycle. Involves short written assignments and presentations by individuals and teams of students focused on writing and analytical skills necessary to support, inform, and influence policymakers.

**POLS 3400. Internship in Political Science. (3-6)** Prerequisite(s): Permission of department. Practical experience in politics by working for a party, campaign organization, political office holder, news medium, government agency, or other political organization. Minimum of 150 working hours for three hours credit; minimum of 300 working hours for six hours credit. No more than six credit hours may be received through this course. *Graded on a Pass/No Credit basis.*

**POLS 3700. Honors Research. (3)** Prerequisite(s): POLS 2220 with grade of A; overall GPA of at least 3.25; cumulative POLS GPA of at least 3.5; and permission of instructor. Supervised investigation of a political science topic that is of special interest to the student and related to the instructor's expertise. Students write a literature review and research design for an article-length research paper.

**POLS 3800. Independent Study. (1 to 3)** Prerequisite(s): Permission of instructor. Supervised investigation of a political problem that is (1) of special interest to the student; (2) within the area of the instructor's special competence; and (3) normally an extension of previous coursework with the instructor. A student may take more than one course under this number but not more than three hours a semester.

**POLS 4110. North Carolina Student Legislature. (3)** Cross-listed Course(s): LEGL 4110. Prerequisite(s): Permission of instructor. Practicum including workshops, seminars, and guest speakers on legislative process and research, parliamentary procedure, and resolution and bill drafting; participation in an interim council debate at one of the member campuses for one weekend each month during the semester and participation in the NCSL annual session in Raleigh. *May be repeated for credit.*

**POLS 4163. Advanced Model United Nations. (3)** Prerequisite(s): POLS 3163, or the equivalent and permission of instructor. Preparation for and participation in the Model United Nations (simulation of the United Nations) for students who have completed POLS 3163 or the equivalent. Includes study of the background of countries to be represented; the history, structure and procedures of the United Nations; drafting of resolutions and position papers; public speaking and caucusing; participation in international MUN events. *May be repeated for credit.*

**POLS 4600. Senior Seminar. (3)** Prerequisite(s): Political Science major, POLS 1575, POLS 1501, POLS 1150, and POLS 2220. Capstone course. Seminar style exploration of a selected topic in the discipline. Includes writing a research paper and presenting the results to the class.

**POLS 4700. Honors Thesis. (3)** Prerequisite(s): POLS 3700; approval of a proposal through the Honors College Application to Candidacy process the semester prior to taking the course; and permission of instructor. Students complete an article-length research paper under the supervision of a member of the faculty. The paper must involve quantitative or other methods of modern political analysis.

**POLS 4990. Senior Thesis. (3)** Prerequisite(s): POLS 2220 with a grade of B or above; Political Science major; overall GPA of 3.0 or above. Students complete an article-length research paper under the supervision of a member of the faculty. The paper must involve quantitative or other methods of modern political analysis.

# Portuguese (PORT)

**PORT 1201. Elementary Portuguese I. (3)** Fundamentals of the Portuguese language, including speaking, listening comprehension, reading, and writing.

**PORT 1202. Elementary Portuguese II. (3)** Prerequisite(s): PORT 1201 or permission of department. Fundamentals of the Portuguese language, including speaking, listening comprehension, reading, and writing.

**PORT 2201. Intermediate Portuguese I. (3)** Prerequisite(s): PORT 1202 or permission of department. Review of grammar, with conversation and composition.

**PORT 2202. Intermediate Portuguese II. (3)** Prerequisite(s): PORT 2201 or permission of department. Continued review of grammar, conversation, and composition.

**PORT 3201. Portuguese Grammar and Conversation. (3)** Prerequisite(s): PORT 2202 or permission of department. Review of Portuguese grammar and guided conversation on prepared topics. Emphasis on spoken Portuguese.

**PORT 3202. Portuguese Grammar and Conversation. (3)** Prerequisite(s): PORT 3201 or permission of department. Review of Portuguese grammar and guided compositions on prepared topics. Emphasis on vocabulary, idiomatic expressions, and stylistics.

# Professional Studies (PROS)

**PROS 2101. Project Management: Foundations. (3)** Prerequisite(s): Professional Studies major or permission of instructor. The Project Management series is designed to provide a firm base of skills for systematically planning, organizing, and managing resources to meet specific project goals. The course content is based on the Project Management Institute's (PMI) A Guide to the Project Management Body of Knowledge (PMBOK® Guide). The Foundations level includes defining the organizational need and information gathering to clearly define project requirements.

**PROS 2102. Project Management: Practitioner. (3)** Prerequisite(s): Professional Studies major or permission of department and PROS 2101. The Project Management series is designed to provide a firm base of skills for systematically planning, organizing, and managing resources to meet specific project goals. The course content is based on the Project Management Institute's (PMI) A Guide to the Project Management Body of Knowledge (PMBOK® Guide). The Practitioner level includes

documenting requirements for use by all stakeholders and analyzing, verifying and validating requirements.

**PROS 2103. Project Management: Specialist. (3)** Prerequisite(s): PROS 2101. The Project Management series is designed to provide a firm base of skills for systematically planning, organizing, and managing resources to meet specific project goals. The course content is based on the Project Management Institute's (PMI) A Guide to the Project Management Body of Knowledge (PMBOK® Guide). The Specialist level includes managing risk and creating a framework for successful requirements management and communication.

**PROS 2201. Leadership Essentials: Foundations. (1)** Prerequisite(s): Professional Studies major or permission of department. The Leadership Essentials series is designed to strengthen and develop leadership and management skills necessary in contemporary work settings. The Foundations level includes strategies for successful hiring and conflict resolution.

**PROS 2202. Leadership Essentials: Practitioner. (1)** Prerequisite(s): Professional Studies major or permission of department and PROS 2201 Leadership Essentials Foundations. The Leadership Essentials series is designed to strengthen and develop leadership and management skills necessary in contemporary work settings. The Practitioner level includes the art of delegation and time management.

**PROS 2203. Leadership Essentials: Specialist. (1)** Pre- or Corequisite(s): Professional Studies major or permission of department; PROS 2201. The Leadership Essentials series is designed to strengthen and develop leadership and management skills necessary in contemporary work settings. The Specialist level includes emotional intelligence and creating a high performance culture.

**PROS 2301. Human Resource Management: Foundations. (3)** Prerequisite(s): Professional Studies major or permission of department. The Human Resource Management series is designed to explore the challenges and problem-solving strategies facing leaders in human resource roles. The Foundations level includes workforce planning, human resource development, and employee performance management.

**PROS 2302. Human Resource Management: Practitioner. (3)** Prerequisite(s): Professional Studies major or permission of department; PROS 2301. The Human Resource Management series is designed to explore the challenges and problem-solving strategies facing leaders in human resource roles. The Practitioner level includes employee engagement, employee relations, and compensation.

**PROS 2303. Human Resource Management: Specialist. (3)** Prerequisite(s): PROS 2301. The Human Resource Management series is designed to explore the challenges and problem-solving strategies facing leaders in human resource roles. The Specialist level includes change management and organization development.

**PROS 3000. Topics in Professional Studies. (1 to 3)** Prerequisite(s): Professional Studies major or permission of department. Explores special or emerging topics in professional studies. *May be repeated for credit with change of topic.*

**PROS 3104. Project Management: Introduction to Agile. (3)** Prerequisite(s): PROS 2101. Explores the Agile using Scrum framework to design products to meet the needs of users. Students will learn why, how, and when to apply Agile using Scrum.

**PROS 3105. Project Management: Process Improvement & Design. (3)** Prerequisite(s): PROS 2101. Lean Six Sigma methodologies used to improve existing processes and design new processes. Students will learn how to improve existing processes and create new processes through a five-phased approach called DMAIC (Define, Measure, Analyze, Improve, and Control.)

**PROS 3204. Organizational Leadership. (3)** Prerequisite(s): PROS 2201. Exploration of leadership styles and theories, equipping students with the skills to effectively influence individuals and groups within organizations. Students will assess organizational design and culture, identifying strategies to improve overall effectiveness. The course emphasizes collaboration and teamwork, fostering an understanding of group behavior dynamics, and implementing strategies to create cohesive and productive environments.

**PROS 3205. Leading and Managing Technical Team-Based Innovation. (3)** Prerequisite(s): PROS 2101 or PROS 2201. Explores the intersection of science, business, leadership, and project management. It is designed for professionals who need to bridge technical expertise with organizational strategy. Students will develop skills to effectively lead teams, manage cross-disciplinary projects, and communicate across technical and business roles. Whether preparing to lead innovation efforts or manage science-driven initiatives, learners will gain practical tools to translate complex scientific work into business impact.

**PROS 3206. Strategic Leadership. (3)** Prerequisite(s): PROS 2201. Strategic Leadership delves into principles that emphasize the role of leaders in planning and decision-making to shape effective strategies. Key topics include crafting vision and mission statements, problem-solving, and leading teams toward achieving organizational goals.

**PROS 3304. The Role of Human Resource Management in an Organization. (3)** Prerequisite(s): PROS 2301. A comprehensive understanding of the critical role HRM plays in shaping an organization's culture and overall success. Students will learn how to align HRM with an organization's strategic objectives, contributing to its success and growth. Students will also learn to harness HR data and analytics to make informed decisions and drive organizational improvements.

**PROS 3305. Human Resource Development and Workplace Planning. (3)** Prerequisite(s): PROS 2301. Two critical facets of modern HR: Human Resource Development (HRD) and Workplace Planning. Students will learn how to effectively plan, develop, and manage HRD that align with organizational objectives, enhance employee performance and engagement, and contribute to long-term success in a rapidly changing environment.

**PROS 3306. Workforce Acquisition and Talent Development. (3)** Prerequisite(s): PROS 2301. Examines the intertwined realms of workforce acquisition and talent development. Students will learn how to attract, select, and cultivate talent; implement onboarding, training, and development elements to align with business and employee needs; and design comprehensive compensation and benefits programs.

**PROS 3321. Foundations of Instructional Design. (3)** Introduction to the fundamentals of instructional design principles, learning theories,

and key models. It also emphasizes collaboration with stakeholders, sponsors, subject matter experts, and team members. By learning how to identify performance needs, set clear objectives, and engage professionally with others, students build a strong foundation for designing successful learning experiences. This course prepares future instructional designers to start projects on the right footing by focusing on business goals, clear communication, and working effectively in a team environment.

**PROS 3322. Designing Effective Learning Solutions. (3)** Prerequisite(s): PROS 3321. Building on the foundational principles, this course transforms analysis and initial concepts into tangible learning solutions. Students learn to craft detailed instructional strategies, create meaningful learning activities, incorporate multimedia, and leverage course design tools. By the end of the course, students will be able to produce engaging prototypes that meet defined learning objectives. The course develops future practitioners who can independently translate performance needs into practical, innovative, and learner-centered solutions that improve performance.

**PROS 3323. Developing Engaging eLearning Programs. (3)** Prerequisite(s): PROS 3321, PROS 3322. In this course, students deepen their development capabilities, moving beyond static learning materials to dynamic, interactive eLearning experiences. The course prepares students to deliver customized, high-quality digital learning solutions by fostering creativity and technical proficiency. As future practitioners, students will be able to produce sophisticated online learning solutions that attract and maintain learner attention, driving measurable improvements.

**PROS 3324. Evaluating & Enhancing Learning Solutions. (3)** Prerequisite(s): PROS 3321, PROS 3322. Pre- or Corequisite(s): PROS 3323. Teaches students how to measure the effectiveness of their learning programs and continuously improve them. Students learn to identify gaps, refine learning solutions, and demonstrate return on investment. As future practitioners, students will be able to maintain a culture of quality, accountability, and continuous improvement within their organization's learning and development efforts.

**PROS 3331. Foundations of IT and Technical Support. (3)** Introduction to the foundational concepts of information technology. Students will gain a broad understanding of computer hardware, software, operating systems, and the role of IT support professionals in a business environment. Emphasis is placed on troubleshooting strategies and customer service skills essential for entry-level IT roles.

**PROS 3332. Computer Networking and Internet Technologies. (3)** Prerequisite(s): PROS 3331. An in-depth exploration of computer networking concepts and practices. Students will learn how data travels across networks, the roles of networking hardware, and how protocols like TCP/IP, DNS, and HTTP work. Practical network configuration and basic troubleshooting techniques are emphasized.

**PROS 3333. Operating Systems and System Administration. (3)** Prerequisite(s): PROS 3331. Equips learners with the knowledge and skills to manage and troubleshoot operating systems and IT infrastructure. Students will gain hands-on experience with Windows and Linux environments, learn command-line tools, and explore administrative tasks such as user account management.

**PROS 4101. Project Management: Advanced Roles of a Project Manager. (3)** Prerequisite(s): PROS 2101. Advanced roles that a project manager may experience and have to master in an organizational environment. Students will complete an exploratory journey through some of the more complex roles a project manager must take on to ensure success. This includes mitigating risks that could lead to project failure, coaching and leading powerful teams through ambiguity while lowering employee resistance to change. This also includes being a strategic leader, data analyst and storyteller.

**PROS 4201. Leadership and Innovation. (3)** Prerequisite(s): PROS 2201. Exploration of the dynamic relationship between leadership and innovation within organizations. Students will examine the complexities of change management, studying various models and strategies for leading successful change initiatives.

**PROS 4301. Human Resource Management in a Changing, Global Environment. (3)** Prerequisite(s): PROS 3304 or permission of the department. A deep exploration of the role of HR in today's globalized and ever-changing environment. Students will gain an understanding of the strategic, cultural, and ethical challenges of managing a diverse workforce. Students will also learn to mitigate risks and manage conflict during periods of change.

**PROS 4331. Cybersecurity and IT Risk Management. (3)** Prerequisite(s): PROS 3331. Introduces cybersecurity principles and prepares learners to identify and respond to IT security threats. Topics include encryption, authentication, malware, firewalls, access control, backups, and basic incident response. Emphasis is placed on hardening systems and securing data in motion and at rest.

**PROS 4600. Professional Studies Capstone. (1 to 3)** Prerequisite(s): Senior standing; PROS 2103 or PROS 2201 or PROS 2301. Working in small consulting groups, students develop viable solutions to actual industry problems presented by partnering organizations and present solutions as part of the culminating project. *May be repeated for credit up to 3 credit hours.*

# Psychology (PSYC)

**PSYC 1000. The Science and Practice of Psychology. (3)** Open to entering Freshmen accepted into the Psychology Learning Community, it is one of 3-4 courses in a registration block. The sub-disciplines of psychology and their related career paths will be explored. Additional topics include: graduate study in psychology, academic success in psychology, and getting the most from the psychology major and degree. The course has a service learning requirement that includes community service in a social-services setting and associated learning assignments.

**PSYC 1101. General Psychology. (3)** A survey of the field including such topics as learning, emotions, motivation, personality, psychological testing, and abnormal behavior. Emphasis on psychology as a behavioral science. May be taken with or without the lab; however, concurrent enrollment with PSYC 1101L is strongly encouraged. A grade of C or above must be earned within two attempts to declare or continue with a psychology major.

**PSYC 1101L. General Psychology Laboratory. (1)** Pre- or Corequisite(s): PSYC 1101 with grade of C or above. An introduction to laboratory equipment and procedures used in psychological science. Meets two hours per week. May not be counted toward completion of psychology major or minor.

**PSYC 2113. Introduction to Brain, Behavior, and Mental Processes. (3)** Prerequisite(s): PSYC 1101 with grade of C or above. Physiological psychology, biopsychology, and neuroscience are rapidly expanding fields of scientific research. Reviews basic knowledge about how the brain works and applies this knowledge to basic behaviors. An introductory class that begins to link biology to psychology via examination of the biological underpinning of behavior.

**PSYC 2115. Introduction to Self in Context. (3)** Prerequisite(s): PSYC 1101 with grade of C or above. An introduction to the study of the self and the interplay between the self and the social contexts in our world or what factors affect how one identifies themselves with respect to others around them. This course will cover current and past research on the self, with a focus on relevant theoretical perspectives and common methodologies used in the field.

**PSYC 2117. Introduction to Lifespan Development. (3)** Prerequisite(s): PSYC 1101 with grade of C or above. An introduction to the study of the physiological, cognitive, and socioemotional changes in human development occurring across the lifespan. Theoretical perspectives and the most widely used research methodologies are reviewed.

**PSYC 2300. Psychology Success Strategies for Transfer Students. (3)** Prerequisite(s): Psychology major and first semester transfer student. Designed to foster a successful transition for transfer students to UNC Charlotte. Covers such topics as psychological literacy, the sub-disciplines of psychology and their associated career paths, transfer shock and student success strategies, and opportunities for campus and departmental engagement.

**PSYC 2301. Introduction to Forensic Psychology. (3)** Cross-listed Course(s): LEGL 2131. Prerequisite(s): PSYC 1101 with grade of C or above. This upper 2000-level course provides an overview of the field of forensic psychology, including the history of the discipline, and legal and ethical issues such as criminal profiling, definition of "insanity," eyewitness identification, and jury selection.

**PSYC 2302. Introduction to Positive Psychology. (3)** Prerequisite(s): PSYC 1101 with grade of C or above. This upper 2000-level course examines the principal concepts, applications, and research paradigms of positive psychology in reference to various contexts such as everyday people, cross-cultural perspectives, adjustment to chronic illness, surviving natural disasters, terrorist attacks, and civil war.

**PSYC 2316. Introduction to Cognitive Processes. (3)** Prerequisite(s): PSYC 1101 with grade of C or above, or permission of instructor. This upper 2000-level course will introduce and expand on cognitive processes involved in such complex behaviors as language (acquisition and usage), memory, and problem solving, with emphasis upon experimental findings and current theories.

**PSYC 2320. Introduction to Industrial/ Organizational Psychology. (3)** Prerequisite(s): PSYC 1101 with grade of C or above. This upper 2000-level course covers the study of people at work; what motivates people to work and what leads to satisfaction, alienation, or performance; how to lead others; the structure of an organization and processes of communication, decision making, and conflict; socialization through selection and training; measurement of individual contributions; the design of work itself; ways to change; and develop entire organizations.

**PSYC 2333. Introduction to Comparative Psychology. (3)** Prerequisite(s): PSYC 1101 with grade of C or above. Animal and human behavior from a comparative point of view. Includes the study of methodology, and classification of behavior patterns, as well as the origin of these patterns.

**PSYC 2340. Psychology of Adjustment. (3)** Prerequisite(s): PSYC 1101 with grade of C or above. This upper 2000-level course covers the study of the process of adjustment and factors that may influence adaptation. Consideration is given to psychological reactions to critical problems encountered in modern life. Introduction to different approaches to intervention and treatment.

**PSYC 2341. Psychopathology. (3)** Prerequisite(s): PSYC 1101 with grade of C or above. This upper 2000-level course covers the history of mental health diagnoses. Case studies, differential diagnosis, psychological dynamics of behavior that disrupts an individual's life, including theoretical, clinical, and experimental contributions in the field.

**PSYC 2350. Introduction to Social Psychology. (3)** Prerequisite(s): PSYC 1101 with grade of C or above. This upper 2000-level course covers the social behavior of individuals. Topics include: interpersonal attraction and relationship development; attitude change; social conflict; social interaction; social perception; and social influence processes; general theories of social behavior; and research approaches.

**PSYC 2360. Introduction to Health Psychology. (3)** Prerequisite(s): PSYC 1101 with grade of C or above. This upper 2000-level course introduces students to the contributions of psychology to the promotion and maintenance of health, the prevention and treatment of illness, and the improvement of the healthcare system. Topics include: the role of stress and physiological factors in illness, chronic pain disorders and pain management, lifestyle and psychosocial influences on health, and the influence of illness of interpersonal relationships.

**PSYC 2370. Child Development. (3)** Prerequisite(s): PSYC 1101 and PSYC 2117 with grade of C or above. The upper 2000-level course covers the psychological, cognitive, and socioemotional development in infancy and childhood, including such topics as biological change, learning, thought, language, social relations, intelligence, and morality.

**PSYC 2371. Adolescent Development. (3)** Prerequisite(s): PSYC 1101 and PSYC 2117 with grade of C or above. This upper 2000-level course covers the cognitive and socioemotional developmental and psychological characteristics of adolescents, with emphasis on the developmental transitions, social contexts, and problems of adolescence.

**PSYC 2372. Adult Development and Aging. (3)** Cross-listed Course(s): GRNT 2124. Prerequisite(s): PSYC 1101 and PSYC 2117 with grades of C or above. This upper 2000-level course covers the cognitive and psychological development through adulthood and old age. Emphasis on processes underlying continuity and change in adulthood, including

personality and socialization, cognitive development, and the psychophysiology of aging.

**PSYC 2390. Life Beyond the Psychology Bachelor of Science. (3)** Prerequisite(s): Psychology major. Pre- or Corequisite(s): PSYC 2391 co-enrollment or with a C or better. This course is designed to help students begin to chart their academic and career paths within the psychology major. The course provides an overview of the major sub-disciplines within the broad and diverse field of psychology, helping students find a personal career path congruent with their interests and goals. Students learn how to utilize on-campus and online tools that help prepare them for professional and civic life after graduation, and research a range of potential careers available to them with a BS in psychology.

**PSYC 2391. Research Methodology I. (3)** Prerequisite(s): PSYC 1101 and STAT 1220, STAT 1221, or STAT 1222 with grades of C or above. Psychology major; A grade of C or above must be earned within two attempts to continue in the Psychology major; Can NOT co-enroll in PSYC 3291 or PSYC 3292. This course is designed to introduce students to the experimental, observational, and correlational methods of psychological research. Basic concepts of philosophy of science are also discussed. A grade of C or above must be earned within 2 attempts to continue in the Psychology major. This is a PSYC majors only course and it must be completed prior to or enrolled in PSYC 2391 prior to registering for any course that lists it as a pre-req, especially PSYC 3291 or PSYC 3292.

**PSYC 3001. Topics in Psychology. (1 to 3)** Prerequisite(s): PSYC 1101 with grade of C or above and permission of instructor (depending on topic). Examination of special psychological topics. *May be repeated for credit with change of topic.*

**PSYC 3099. Topics in Psychological Research. (3)** Prerequisite(s): PSYC 1101, PSYC 2391, and PSYC 3291 or PSYC 3292 with grades of C or above, or permission of instructor. Examination of special psychological topics. Preparation of one or more APA-style research papers required. *May be repeated for credit with change of topic.*

**PSYC 3101. Sexual Behavior. (3)** Prerequisite(s): PSYC 1101 and PSYC 2113 with grades of C or above. Explores the psychology of sexual behavior, including providing an overview of the major psychological theories, providing an understanding of the psychological factors that affect human sexual behavior, and examining current issues and controversies related to sexuality such as sexual dysfunction and sexual offenses.

**PSYC 3120. Industrial Psychology. (3)** Prerequisite(s): PSYC 2171 or permission of instructor. This lower 3000-level course focuses on the "I-Side" of I/O Psychology, and covers talent acquisition and talent management processes and their impact on individuals and organizations. Topics covered include job analysis, recruitment, employee selection, assessment, onboarding, performance measurement, performance management, and training and development.

**PSYC 3121. Organizational Psychology. (3)** Prerequisite(s): PSYC 2171 with grade of C or above. Application of psychological principles to group and organizational levels of analysis, with emphasis on work teams and business organizations. Topics include: group dynamics, teams and empowerment, organizational culture and diversity, and organization development and change.

**PSYC 3123. Social and Personality Development. (3)** Prerequisite(s): PSYC 1101; and PSYC 2130 or PSYC 3135; with grades of C or above. Social and personality development of children, including such topics as infant social behavior, socialization practices, independence and achievement, aggression, sex-role development, and moral development.

**PSYC 3125. Older Worker and Retirement. (3)** Prerequisite(s): PSYC 1101 and PSYC 2320 OR GRNT 2100 OR SOCY 2100. Cross-listed Course(s): GRNT 3125 and SOCY 3125. Physical characteristics, personal attitudes, and structural factors affecting the employment of persons over 40. Topics include: biological aging, myths and stereotypes about older workers, public policies, human resources practices, economics of retirement, and theories about career and life stages.

**PSYC 3131. Psychology of Learning and Memory. (3)** Prerequisite(s): PSYC 1101 and PSYC 2113 and PSYC 2316 with grades of C or above; PSYC 3292 is also strongly recommended. This lower 3000-level course covers the major theories and research results related to learning and memory in humans and animals. It builds off information learned in the pre-req courses (PSYC 2113 & PSYC 2316).

**PSYC 3132. Sensation and Perception. (3)** Prerequisite(s): PSYC 1101 and PSYC 2113 with grades of C or above, or permission of instructor. Introduction to the sensory and perceptual processes that provide the means to experience and make sense of the physical world in which we live. Topics include: discussions of how sensory data are acquired, processed, and interpreted.

**PSYC 3141. Introduction to Clinical Psychology. (3)** Prerequisite(s): PSYC 1101 and PSYC 2151 with grades of C or above. Overview of the field of clinical psychology, including the theory and practice of discipline.

**PSYC 3201. Motivation. (3)** Prerequisite(s): PSYC 1101 and PSYC 2391 with grades of C or above. Current theories and research in the area of motivation. Consideration is given to the role of emotion in human motives.

**PSYC 3216. Introduction to Cognitive Science. (3)** Cross-listed Course(s): ITCS 3216 and ITIS 3216. Prerequisite(s): PSYC 1101 with grade of C or above, or permission of department. Interdisciplinary introduction to the science of the mind. Broad coverage of such topics as philosophy of mind; human memory processes; reasoning and problem solving; artificial intelligence; language processing (human and machine); neural structures and processes; and vision.

**PSYC 3291. Critical Thinking About Research. (3)** Prerequisite(s): PSYC 1101; PSYC 2391; and STAT 1220, STAT 1221, or STAT 1222 with grades of C or above within two attempts; Psychology major; A grade of C or above must be earned within two attempts to continue in the Psychology major; NO co-enrollment with PSYC 3292; Students can NOT take if student already completed or has 2 failed attempts in PSYC 3292. Recognizing and evaluating methods used in published psychological research, and understanding how to interpret results of statistical tests used in research. Communicating using APA Style is a major component of the course. Emphasis on methodology rather than content. A grade of C or above must be earned within two attempts to continue in the Psychology major. This is a PSYC majors only course and it is mutually exclusive with PSYC 3292, meaning students cannot take both.

**PSYC 3292. Research Methodology II. (3)** Prerequisite(s): Psychology major; and PSYC 1101; PSYC 2391; and STAT 1220, STAT 1221, or STAT 1222; all with grades of C or above within two attempts; Psychology major; A grade of C or above must be earned within two attempts to continue in the Psychology major; NO co-enrollment with PSYC 3291; Students can NOT take if student already completed or has 2 failed attempts in PSYC 3291. Hands-on experience with experimental, observational, and correlational methods of psychological research. Communicating research results using APA Style is a major component of the course. Emphasis on methodology rather than content and applicability of methods to current topics in psychology. A grade of C or above must be earned within two attempts to continue in the Psychology major. This is a PSYC majors only course and it is mutually exclusive with PSYC 3291, meaning students cannot take both.

**PSYC 3301. Basic Processes in Psychological Assessment. (3)** Prerequisite(s): PSYC 1101, PSYC 2391, and PSYC 3292; and STAT 1220, STAT 1221, or STAT 1222; all with grades of C or above. Psychological testing, including scaling procedures, reliability and validity, correlational techniques used in test construction, a review of various kinds of psychological tests, and basic approaches to test interpretation.

**PSYC 3302. History and Systems of Psychology. (3)** Prerequisite(s): Psychology major; PSYC 3291 or PSYC 3292 with grades of C or above within two attempts. Historical antecedents and origins of modern psychology. Emphasis on influential psychological systems such as behaviorism and psychoanalysis.

**PSYC 3316. Language and Cognition. (3)** Prerequisite(s): PSYC 1101 and PSYC 2316 or PSYC 3216 with grades of C or above. This upper 3000-level course includes the theory and research on the relationship of language and thought, covering topics such as how language is represented and processed in the mind and brain, the cognitive processes underlying language comprehension, production, and acquisition, and the influence of language on memory, problem solving, and decision making.

**PSYC 3333. Behavioral Neuroscience. (3)** Prerequisite(s): PSYC 1101, PSYC 2113, PSYC 2391, and PSYC 3291 or PSYC 3292 with grades of C or above. This upper 3000-level course examines the relationship of physiological systems with emphasis on the nervous system, and how their integration can affect behavior and mental processes. This course covers topics including but not limited to psychopharmacology, sexual differentiation, neurobiology of emotion, sleep, eating, etc. Students should expect to complete APA style writing project(s).

**PSYC 3347. Child Psychopathology. (3)** Prerequisite(s): PSYC 1101, PSYC 2151, and PSYC 2370, all with grades of C or above. Principles of classification, assessment and treatment of children and adolescents who display deviant affective, cognitive, and social behavior.

**PSYC 3355. Psychological Approaches to Diversity. (3)** Prerequisite(s): PSYC 1101 and PSYC 3291 or PSYC 3292 with grade of C or above. This upper 3000-level course examines research on the processes and consequences of stereotyping and discrimination for different demographic subgroups (e.g., women, LGBTQ+, disabled and racial/ethnic groups) and the social implications. APA style writing projects will be expected of students.

**PSYC 3356. Psychology of Women and Gender. (3)** Cross-listed Course(s): WGST 3226. Prerequisite(s): PSYC 1101, PSYC 3291 or PSYC 3292; with grade of C or above. This upper 3000-level course examines the psychological research and theory regarding women and gender topics including gender-role development, gender stereotyping, intersection of gender and ethnicity, gendering of emotions, abilities and achievement, gender and work, and women's health and sexuality. APA style writing projects will be expected of students.

**PSYC 3357. Introduction to Community Psychology. (3)** Prerequisite(s): PSYC 1101 and PSYC 2391 with grade of C or above or with approval from the instructor. Social forces, particularly within the context of organizations and/or communities, that affect the development of psychopathology and/or personal competency, with emphasis on preventing psychopathology and increasing competency. Topics include: the concept of prevention; assessment of organizations, communities, and other environments; methods of instituting organizational and community change; evaluating the effects of community interventions; social policy analysis; and ethical issues involved in community work.

**PSYC 3405. Practicum in Applied Psychology. (1 to 4)** Prerequisite(s): Junior or Senior standing, permission of instructor and department. Work in practical settings related to psychology under the supervision of a faculty member. *May be repeated for credit with permission of department.* Students must obtain approval in the semester preceding the semester in which the practicum is to be taken. *Graded on a Pass/No Credit basis.*

**PSYC 3407. Service Learning in Psychology. (1 to 4) (SL)** Prerequisite(s): Permission of instructor. Work in practical settings related to psychology. Practicum setting may be local or international. *May be repeated for credit. Graded on a pass/no credit basis.*

**PSYC 3806. Undergraduate Research Assistantship. (1 to 4)** Prerequisite(s): Permission of instructor, Psychology major, and a GPA above 2.0. Assist faculty with current research projects. Exact duties depend on hours enrolled and the needs of the instructor. *May be repeated for credit.* Students must obtain approval from the instructor listed in the schedule of classes in the semester preceding the semester in which the course is to be taken.

**PSYC 3808. Undergraduate Teaching Assistantship. (3)** Prerequisite(s): Psychology major, Junior or Senior standing, overall GPA of 2.75 or above, and a Psychology GPA of 3.0 or above. Undergraduate teaching assistants (UGTAs) assist faculty with the administration of courses, hold review and practice sessions for students needing assistance. All UGTAs are expected to meet with the supervising faculty member once a week, attend all class meetings of the course in which they are assisting, hold a minimum of two office hours per week, and complete other activities as requested by the instructor. Students wanting to become UGTAs may apply to the faculty listed in the schedule of classes as PSYC 3808 instructors. The selection process is competitive. *May be repeated for credit.*

**PSYC 4002. Advanced Topics in Psychology. (3)** Prerequisite(s): Psychology major; PSYC 3291 or PSYC 3292; all with grades of C or above within two attempts. Examination of special psychological or closely related field topics. Please see the section comments to understand what sub-area of psychology or interdisciplinary field will be covered. This

course will require reading of primary psychological or related field's research and typically involves a course long project. This course does NOT meet the capstone requirement.

**PSYC 4009. Advanced Topics in Psychological Research. (3)** Prerequisite(s): PSYC 3291 or PSYC 3292 with grade of C or above, Psychology major, and Senior standing. Examination of special psychological topics. Writing is a central requirement of the course. May be used in fulfillment of the capstone requirement for the major.

**PSYC 4116. Cognitive Neuroscience. (3)** Prerequisite(s): PSYC 3291 OR PSYC 3292 and PSYC 3333 OR PSYC 3216 with grades of C or above, or permission of instructor. Biological basis of consciousness and the neurobiology of mental processes by which we perceive, act, learn, and remember; representation of mental processes from electrophysiological and brain imaging techniques, clinical neurology, and computational science.

**PSYC 4151. Psychology of Personality. (3)** Prerequisite(s): PSYC 2341, PSYC 2350, and PSYC 3291 or PSYC 3292 with grades of C or above. Current personality theories. Consideration given to psychoanalytic, physiological, trait and factor, the perceptual viewpoints in the light of contemporary research.

**PSYC 4360. Advanced Investigation in Health Psychology. (3)** Prerequisite(s): PSYC 3292 or PSYC 3291 and PSYC 2360 with a C or better; Psychology Major, Senior Standing. This capstone course is a detailed examination of issues relevant to health and behavior. Using a combination of lecture, readings of primary research and some discussion, this course covers health-related concepts and controversies current in the professional literature. As a 4000-level course, it emphasizes development of written and oral communication skills for a career in psychology-related employment. See comments in the course registration system for the exact focus of the current offering.

**PSYC 4601. Seminar in Experimental Psychology. (3)** Prerequisite(s): Psychology major; Senior standing; PSYC 1101, PSYC 2391, and PSYC 3292; all with grades of C or above within two attempts. In this capstone course, an in-depth examination of an area of current concern in the psychological laboratory and study design. Each semester may have a different focus such as discrimination, cognitive tasks, experimental analysis of behavior, attention, or emotional responses, or challenge/stress tasks. Emphasizes development of written and oral communication skills. See comments in the course registration system for the exact focus of the current offering.

**PSYC 4602. Seminar in Human Adaptation and Behavior. (3)** Prerequisite(s): Psychology major; Senior standing; PSYC 2391; PSYC 3291 or PSYC 3292; all with grades of C or above within two attempts. In this capstone, an intensive reading and discussion in selected areas of psychology, such as stress, personality, emotions and psychopathology. Emphasizes development of written and oral communication skills. See comments in the course registration system for the exact focus of the current offering.

**PSYC 4620. Seminar in Industrial/Organizational Psychology. (3)** Prerequisite(s): Psychology major; Senior standing; PSYC 2391; PSYC 3291 or PSYC 3292; all with grades of C or above within two attempts; and PSYC 2320 with grade of C or above. This capstone covers topics of current concern in industrial/organizational psychology and related disciplines, including issues that affect individuals at work and organizations in society. Emphasizes development of written and oral communication skills. See comments in the course registration system for the exact focus of the current offering.

**PSYC 4633. Seminar in Neuroscience. (3)** Prerequisite(s): Psychology major; Senior standing; PSYC 3291 or PSYC 3292 and PSYC 3333 or PSYC 4116; all with grades of C or above. This capstone course will provide an intensive study of selected topics in cognitive or behavioral neuroscience, such as psychopharmacology, biofeedback and self-regulation, and sleeping and waking. Emphasizes development of written and oral communication skills.

**PSYC 4651. Seminar in Social Psychology. (3)** Prerequisite(s): Psychology major; Senior standing; PSYC 2391; PSYC 3291 or PSYC 3292; all with grades of C or above within two attempts; and PSYC 2350 with grade of C or above. In this capstone, an intensive study at the advanced level of topics of current research and theoretical interest in social psychology. Emphasizes development of written and oral communication skills. See comments in the course registration system for the exact focus of the current offering.

**PSYC 4655. Seminar in Community Psychology. (3)** Prerequisite(s): Psychology major; Senior standing; PSYC 1101; PSYC 2391; PSYC 3292; STAT 1220, STAT 1221, or STAT 1222; all with grades of C or above within two attempts; and PSYC 2150 and PSYC 2165 with grades of C or above. Application of psychological research findings to specific problems in the community with emphasis on problems hypothesized directly to affect psychological well-being. Emphasizes development of written and oral communication skills.

**PSYC 4660. Seminar in Health Psychology. (3)** Prerequisite(s): Psychology major; Senior standing; PSYC 2391, PSYC 3292 and PSYC 2360 with grade of C or above. In this capstone course, a detailed examination of issues relevant to health and behavior. Readings of primary research and critical discussion-focused implementation of health-related concepts and controversies current in the professional literature. Limited lectures emphasizes development of written and oral communication skills in line with preparation for students on research-based graduate school trajectory. See comments in the course registration system for the exact focus of the current offering.

**PSYC 4671. Seminar in Developmental Psychology. (3)** Prerequisite(s): Psychology major; Senior standing; PSYC 2391; PSYC 3291 or PSYC 3292; all with grades of C or above within two attempts; and PSYC 2370 or PSYC 2371 or PSYC 2372, all with grades of C or above. In this capstone, a concentrated examination of selected current issues and research in a field of developmental psychology. Emphasizes development of written and oral communication skills. See comments in the course registration system for the exact focus of the current offering.

**PSYC 4701. Honors Capstone Project I. (3)** Prerequisite(s): Psychology major with at least two semesters remaining before graduating; and Junior or Senior standing; PSYC 1101, and STAT 1220, STAT 1221, or STAT 1222 with grades of C or above within two attempts; PSYC 2391 and PSYC 3292 OR PSYC 3292 with grades of B or above; and permission of instructor. The Honors Program in Psychology involves a multi-semester project designed to capture and represent development of expertise within the domain of psychological science. In part 1, this course

involves the initiation of independent Honors research, including the preparation and defense of a formal project proposal.

**PSYC 4702. Honors Capstone Project II. (3)** Prerequisite(s): Psychology major; Junior or Senior standing; PSYC 4701 with a grade of B or above in first attempt; permission of instructor; and approval of a proposal through the Honors College Application to Candidacy process the semester prior to taking the course. The Honors Program in Psychology involves a multi-semester project designed to capture and represent development of expertise within the domain of psychological science. This course is 2nd semester and allows the students to complete their independent Honors research, including the preparation and defense of a formal Honors project that was approved by committee in PSYC 4701. May be used in fulfillment of the capstone requirement for the major.

# Reading, Language, and Literacy (READ)

**READ 3224. Teaching Foundational Literacy Skills. (3)** Prerequisite(s): Admission to Teacher Education. Research, theory, and evidence-based instructional practices related to the teaching and learning of reading in the elementary school with a specific focus on code-based reading processes including: concepts about print, phonological and phonemic awareness; alphabetic principles, phonics and spelling, high frequency words, fluency, and assessment-based instruction while meeting the needs of all learners. The coursework and objectives described were designed based on current research on reading development and instruction and are aligned to the science(s) of reading. This course includes an extensive field-based component.

**READ 3226. Applied Literacy and Practices. (3)** Prerequisite(s): Admission to Teacher Education. Research, theory, and evidence-based instructional practices related to integrating literacy within all subject areas focusing on: vocabulary, reading comprehension, and addressing the needs of *all* learners in elementary classrooms. The coursework and objectives were designed based on current research on reading development and instruction and are aligned to the science of reading. This course includes an extensive field-based component.

**READ 3255. Integrating Reading and Writing Across Content Areas. (3)** Prerequisite(s): Admission to Teacher Education. Theories, research, and instructional methods, associated with reading and writing in the content areas of the middle and secondary school curriculum. Includes an extensive field-based component.

**READ 4161. Assessment, Design, and Implementation of Classroom Reading Instruction. (3)** Prerequisite(s): Admission to Teacher Education and READ 3224. Techniques for assessing reading development and using assessment data to design and implement responsive reading instruction. The coursework and objectives were designed based on current research on reading development and instruction and are aligned to the science of reading. This course includes an extensive field-based component.

**READ 4205. Reading and Writing Across Digital Spaces. (3)** Prerequisite(s): Admission to Teacher Education and the Reading Education Minor. Pedagogical techniques in reading and writing instruction using Web 2.0 technologies and digital computing devices. Includes 10 hours of field experience.

**READ 4270. Investigating Reading Curriculum. (3)** Prerequisite(s): Admission to Teacher Education and the Minor in Reading Education; READ 3224; and READ 3226. Examination of the current models and theories for teaching reading; the best practices for literacy growth and development; the instructional tools and techniques available to the teacher of literacy; and the materials for use in teaching reading in grades K-8. Emphasis is on teaching through a balanced literacy approach. Includes 10 hours of field experience.

# Religious Studies (RELS)

*Note: Depending on how respective sections of RELS courses are taught, a course could fulfill the requirement for Cultural Analysis [C], Historical Analysis [H], or Textual Analysis [T] for the B.A. in Religious Studies. Students **must** consult the course descriptions circulated each semester to determine which designations have been assigned to a particular course.*

**RELS 1120. The Bible and Its Interpreters. (3)** An introduction to the history of biblical interpretation from the pre-canonical era to the present. *Fulfills the [H] or [T] requirement.*

**RELS 1200. World Religions. (3)** A study of the historical origins, central teachings, and devotional practices of the major religious traditions - Hinduism, Buddhism, Confucianism, Taoism, Judaism, Christianity, and Islam - alongside those of smaller and newer religious movements. *May not be taken for credit and for a grade if credit has been received for RELS 1502.*

**RELS 1201. Introduction to Religion. (3)** An introduction to the study of the religious dimensions of human existence. *Fulfills the [C] or [T] requirement.*

**RELS 1502. Global Arts/Humanities: Other Worlds. (3)** This Global Theme course uses the methods and insights of the social sciences to explore the central question of what it means to be a citizen of the world. Through the study of one or more different peoples, societies or cultures across the globe, students will be able to better understand themselves as part of a complex, interconnected world. Students explore how religions change as they move across time and space. It asks: How do religions help people understand their place in the world, form transregional and even trans-dimensional connections, and create senses of what is "local" and what is "universal"? How do people remake religion in new places and how are those places remade in the process? *May not be taken for credit and for a grade if credit has been received for RELS 1200.*

**RELS 1512. Local Arts/Humanities: Religions in America. (3)** This Local Theme course uses the methods and insights of the social sciences to explore the central question of what it means to be a member of a "local" community. Through the study of the experiences of different peoples, cultures, and communities in our city, our region, or our nation, students will be able to better understand the complexity and diversity of the society in which we live. Selected topics crucial to American religions serve as a prism for understanding how religion has both shaped and been shaped by American cultures. Subjects may include various religious traditions, new religious movements and cult controversies, conversions, environmental issues, popular cultures, and how variables

such as sexuality, race, class, gender, region, and politics have changed and been changed by religious worldviews in the past and present.

**RELS 2000. Topics in Religious Studies. (1 to 3)** Credit hours vary with topics. *May be repeated for credit with change of topic. Fulfills the [C] or [T] requirement.*

**RELS 2022. Martyrs, Heretics, and Reformers: Religious Conflict in the Western World. (3)** Cross-listed Course(s): HIST 2001. When people think about religion it may evoke benevolent images of prayerfulness, faith, devotion, and worship. This course considers a darker side of religion: conflict, sometimes violent, sometimes not. Survey of the major conflicts of religions in the West, from the beginning of the Common Era to the Protestant Reformation, including, persecutions; doctrinal debates; heresies; inquisitions; crusades; inter-faith conflicts and; reform movements. *Fulfills the [C] or [T] requirement. May be repeated for credit with change of topic.*

**RELS 2101. Introduction to Western Religions. (3)** An introduction to Judaism, Christianity, Islam and other selected religions. Emphasis on the myths, stories, symbols, rituals, ideas, and ethical practices of these religions in their classical formulations and in their contemporary practices. *Fulfills the [H] or [T] requirement.*

**RELS 2102. Introduction to Asian Religions. (3)** An introduction to Hinduism, Buddhism, and other selected religions such as Confucianism, Daoism, and Islam. Emphasis on the myths, stories, symbols, rituals, ideas, and ethical practices of these religions in their classical formulations and in their contemporary practices. *Fulfills the [C] or [T] requirement.*

**RELS 2104. Hebrew Scriptures/Old Testament. (3)** Cross-listed Course(s): HCAI 3112. The Hebrew religious tradition from the perspective of its development in the culture of the ancient Near East. *Fulfills the [H] or [T] requirement.*

**RELS 2105. Introduction to the New Testament. (3)** Literary and historical study of the New Testament in its Jewish and Greco-Roman contexts along with an understanding of the composition, themes, authorship, date, and design of each book. Special attention is given to the historical, archaeological, social, political, and other background information of the New Testament. *Fulfills the [H] or [T] requirement.*

**RELS 2106. Religion in Latin America. (3)** Cross-listed Course(s): LTAM 2106. Examines the diversity of religion in Latin America from the pre-colonial period through the present, with special attention to how the intercultural encounters between Indigenous Americans, Africans, and Europeans have shaped religious identities, practices, and institutions in the region. *Fulfills the [C] and [H] requirements.*

**RELS 2107. American Indian Lifeways. (3)** An introduction to the various dimensions of American Indian religiosity, including other-than-human and human persons; myth and orality; sacred space, time, and objects; embodied lifeways and ceremonies; tradition; and change. Special emphasis is placed on past and present imaginings of American Indian lifeways. *Fulfills the [C] or [H] requirement.*

**RELS 2109. Death and the Afterlife. (3)** A survey of beliefs and rituals relating to dying, death, and the afterlife as found in religious, philosophical, and literary texts and in art and architecture.

**RELS 2110. Judaism. (3)** The development of Jewish religious thought from antiquity to the present. *Fulfills the [H] or [T] requirement.*

**RELS 2120. Christianity. (3)** The worldwide development of the thought and practices of diverse Christian traditions from antiquity to the present. *Fulfills the [C], [H], or [T] requirement.*

**RELS 2131. Islam. (3)** The development of the traditions in Islam with emphasis on Islamic culture, literature, and mysticism. *Fulfills the [H] or [T] requirement.*

**RELS 2135. Qur'an. (3)** What is the Qur'an? This course offers an introduction to the academic study of the Qur'an and its place in Muslim communities. *Fulfills the [H] or [T] requirement.*

**RELS 2154. Hinduism. (3)** The ancient Vedic traditions and the development of Hinduism. Emphasis is on the role of Hinduism in Indian civilization. *Fulfills the [H] or [T] requirement.*

**RELS 2157. South and Southeast Asian Buddhism. (3)** An examination of Buddhist traditions of South and Southeast Asia covering material from ancient India through modern formations. *Fulfills the [H] or [T] requirement.*

**RELS 2166. Daoism. (3)** A thematic and historical exploration of a major indigenous religious tradition of China, with particular attention devoted to early, medieval, and modern practices and worldviews. *Fulfills the [H] or [T] requirement.*

**RELS 2169. Mahāyāna Buddhism in East Asia. (3)** An exploration of the various ways the religious ideal of the bodhisattva has been imagined and employed in devotional practice in Mahāyāna Buddhist traditions in China, Korea, Japan, Vietnam, and the United States. *Fulfills the [H] or [T] requirement.*

**RELS 2170. Caribbean Religions. (3)** Examines the history and religious practices of traditions developed in the Caribbean - Vodou, Santería, Rastafarianism - as well as those transformed by the space of the Caribbean - Hinduism and Islam. *Fulfills the [H] or [C] requirement.*

**RELS 2180. Religion in Latin America. (3)** Examines of the richness and diversity of Latin American religions. *Fulfills the [C] requirement.*

**RELS 2216. The Modern Middle East. (3)** Cross-listed Course(s): HIST 2216. An introduction to the history of this important and dynamic region. The course focuses on the issues that have defined the Middle East in the recent past and provides students with the historical context needed to understand the region, its peoples, and its conflicts in greater depth. *Fulfills the [C] or [H] requirement.*

**RELS 2225. Religion and Food. (3)** Explores the relationship between religion and food by examining the role food plays in various religious traditions, as well as the construction of food as an ethical category. Religious myths relating to food, discuss food and ritual, the way food is used to shape gender and social roles, and the ways in which food is used as a tool or indicator of morality are studied. *Fulfills the [C] requirement.*

**RELS 2235. Religion and Magic. (3)** The cross-cultural study of magical and religious behavior, ritual, and belief systems. *Fulfills the [C], [H],or [T] requirement.*

**RELS 2246. Jesus at the Movies. (3)** Cross-listed Course(s): HCAI 3112. An examination of cinematic representations of Jesus with attention to their relation to the historical, social, and political circumstances of their production and to ongoing conversation about the character, meaning, and significance of the Jesus story.

**RELS 2250. The Supernatural and American Culture. (3)** Despite claims that modernity is a realm of disenchantment, contemporary American culture continues to be haunted by ghosts, possessed by demons, and visited by alien others. This course examines some of the multiple appearances and meanings of the supernatural in American culture. *Fulfills the [C] or [H] requirement.*

**RELS 2301. End of the World. (3)** Cross-listed Course(s): HCAI 3112. A study of the influence of End of the World ideas in various cultures and religious traditions. *Fulfills the [C] or [H] requirement.*

**RELS 2600. Orientation to the Study of Religion. (3)** Prerequisite(s): Religious Studies major. Cross-listed Course(s): HCAI 3112. Required of all majors as early in their program as possible. Examines basic concepts, theories, and approaches that are involved in the critical, academic study of religion. Attention is given to basic research materials and to standard writing practices in the discipline. This

**RELS 3000. Special Topics in Religious Studies. (3)** Treatment of a special topic in religious studies. *May be repeated for credit with change of topic.* Same as RELS 3001, but does not fulfill the General Education writing goal. *Fulfills the [C], [H], or [T] requirement.*

**RELS 3001. Special Topics in Religious Studies-Writing Intensive. (3)** Treatment of a special topic in religious studies. *May be repeated for credit with change of topic.* Same as RELS 3000, but fulfills the General Education writing goal. *Fulfills the [C], [H], or [T] requirement.*

**RELS 3090. Readings in Primary Texts. (3)** Introductory and/or intermediate level readings of ancient and medieval primary source texts in languages such as Greek, Latin, Hebrew, Aramaic, Arabic, Sanskrit, or Chinese. *May be repeated for credit with change of topic. Fulfills the [T] requirement.*

**RELS 3104. Prophecy and Prophetic Literature in Ancient Israel. (3)** An examination of the phenomenon of prophecy in the religion of ancient Israel, with particular attention devoted to the writings about and writings attributed to named prophets in the Hebrew Bible. *Fulfills the [H] or [T] requirement.*

**RELS 3113. Jesus. (3)** Prerequisite(s): RELS 2105 is recommended. Jesus and the religion he taught from the point of view of the synoptic gospels. *Fulfills the [H] or [T] requirement.*

**RELS 3114. Why God Lies: The Difficulty Deity of the Hebrew Bible. (3)** Cross-listed Course(s): HCAI 3112. Exploration of difficult passages of the Hebrew Bible in which the deity appears to fib, connive, or outright lie to patriarchs, prophets, and the people. This is not a course in theology, but one which requires an academic and secular approach. Students work to understand the texts of Hebrew Bible in their cultural and historical context, so class material also includes the study and comparison of other myths and narratives of the Ancient Near East. *Fulfills the [C] or [T] requirement.*

**RELS 3115. Early Christianity. (3)** The history of Christianity in the second-seventh centuries C.E. Topics may include martyrdom and persecution, heresy and orthodoxy, constructions of gender and sexuality in early Christianity, church-state relations, asceticism and monasticism, Constantine, and the Christianization of the Roman Empire. *Fulfills the [H] or [T] requirement.*

**RELS 3116. Paul. (3)** A close study of the writings of the apostle Paul in their historical contexts with consideration of the ways in which they played a role in the development of the emerging Christian movement. *Fulfills the [H] or [T] requirement.*

**RELS 3118. God and Sex in the Hebrew Scriptures/Old Testament. (3)** Cross-listed Course(s): HCAI 3112, WGST 3050. Discussion of sexual boundaries, narratives of sexual abuse and sexual violence, tales of an apparent erotic eden - it's all to be found in the Old Testament/Hebrew Bible. Sexuality and gender in biblical literature and culture are explored. Topics include: God's own sexual relationships to prohibited, apparently prohibited, and permitted sexual relationships among humans. Texts of terror and texts of amatory idylls are examined; sources include primary texts, midrashic discussions on the same, and academic commentaries. *Fulfills the [T] requirement.*

**RELS 3122. Esoteric Traditions. (3)** The study of one or more particular expressions of religious esotericism (e.g., Jewish Kabbalah; Hindu Tantra; etc.). *May be repeated for credit with change of topic. Fulfills the [C] or [T] requirement.*

**RELS 3125. The Devil. (3)** A cross-cultural investigation of personifications of evil and moral corruption - namely, the Devil and related figures such as demons, witches, and unclean spirits. *Fulfills the [C] requirement.*

**RELS 3129. Christian Controversies. (3)** An exploration of Christian responses to ethical, cultural, political, and theological conflicts. The issues are selected to represent a range of time periods in the history of various Christian traditions. *Fulfills the [H] or [T] requirement.*

**RELS 3134. Religion in the Contemporary United States. (3)** An examination of selected topics and issues concerning contemporary American religion and culture. Topics may include, but are not limited to, religion and politics, the numerical decline of some religious groups and the explosive growth of others, the increased visibility of combinative religious practices and beliefs, new religious movements, and the intertwining of religions, popular culture, and consumer capitalism. *Fulfills the [C] or [T] requirement.*

**RELS 3137. Religion in the African American Experience. (3)** An introduction to the evolution of black religious thought and culture in America during the 20th century. Emphasizes the rise of the local black church and its expanding role within African American urban communities. Also addresses the emergence of other religious belief systems in contemporary African American culture, such as Voodoo, Santeria, Spiritist churches, the Nation of Islam and even Black Judaism. Issues of race, class, gender, identity, and violence are points of

discussion in light of black religious life. *Fulfills the [C] or [H] requirement.*

**RELS 3150. The African American Church and Civil Rights. (3)** Cross-listed Course(s): AFRS 3150. Role of the African American church in the struggle for human equality. Topics such as radical, moderate, and accommodationist leadership styles; historical development of the Black Church in the South; and the Black Church's emergence as a foundation for modern civil rights movement. *Fulfills the [C] or [H] requirement.*

**RELS 3206. Religion and Food. (3)** Explores the relationship between religion and food by examining the role food plays in various religious traditions, as well as the construction of food as an ethical category. *Fulfills the [C] requirement.*

**RELS 3207. Religion and Politics. (3)** The historic and ongoing interactions between religion and politics. Topics include: the public representation of religion; the religious and political institutions that shape religious presence in the public sphere; constructions of the sacred and the secular in political ideologies; and class, gender, and race in the context of political religions and religious politics. *Fulfills the [H] or [C] requirement.*

**RELS 3208. Religion and the Arts. (3)** Examines the web of relationships between religion and the arts by exploring both religious theories of beauty and art, as well the impact that religious traditions have had on cultural and artistic production. *Fulfills the [C] or [H] requirement.*

**RELS 3210. Religion and Popular Culture. (3)** An examination of the interactions and intertwining of religion and popular culture. Topics may include, but are not limited to, popular literature, domestic rituals, material and visual cultures, space and place, fan cultures, media, and folklore. Emphasis on how religion and popular culture shape and are shaped by issues of identity, community, nostalgia, memory, commercialism, capitalism, power, and meaning. *Fulfills the [C] or [T] requirement.*

**RELS 3212. Religion, Media, and Film. (3)** Cross-listed Course(s): HCAI 3112. An examination of the historical and contemporary intertwining of religion and various forms of media that may include print, television, film, and online case studies. Although the focus of this course may vary, it may only be taken once for credit. *Fulfills the [C] or [T] requirement.*

**RELS 3214. Religion and Healing. (3)** Examines the ways that ethnographic methods can be employed to make sense of medicine, magic, illness, spiritual affliction, and healing across diverse social, cultural, and political contexts. What counts as illness? Who decides which modes of healing are legitimate? These questions introduce students to encounters between religion and medicine, both broadly defined. *Fulfills the [C] requirement.*

**RELS 3215. Religion and Sexuality. (3)** Cross-listed Course(s): HCAI 3112, WGST 3215. An examination of the role of religious discourses and practices in shaping, understanding, and evaluating sexual practices, desires and identities. Although the focus of this course may vary, it may only be taken once for credit. *Fulfills the [C] or [T] requirement.*

**RELS 3217. The Bible and Homosexuality. (3)** Cross-listed Course(s): WGST 3217. Considers a wide range of biblical texts that are referenced in political, cultural, and theological arguments concerning homosexuality, lesbian and gay civil rights, and same-sex marriage. Examines how both pro-gay and anti-gay interpreters have engaged biblical texts and invoked biblical authority across time, rather than determining which views are "right" or "wrong."

**RELS 3220. Religion and Gender. (3)** An examination of the role of religious discourses and practices in shaping, regulating, and evaluating masculine identities and practices. Although the focus of this course may vary, it may only be taken once for credit. *Fulfills the [C] or [T] requirement.*

**RELS 3225. Religion and Race. (3)** An examination of the historical and theoretical influence of religion upon racial identity, discrimination, and stratification in society. *Fulfills the [H] or [C] requirement.*

**RELS 3230. Race, Religion, and Murder. (3)** An introduction to the intersection of race, religion, and violence in American culture. Addresses how Judeo-Christian, Islamic, and Asian traditions have been used to justify and even condone acts of violence against women, children, and peoples of color. *Fulfills the [C] or [T] requirement.*

**RELS 3232. Islam in the African American Experience. (3)** An examination of the historical practices of Islam and its varied forms within African American culture. A key component of the course centers around the narratives of Noble Drew Ali, Elijah Muhammad, Malcolm X, Warith Deen Mohammed, and Louis Farrakhan. Also has a gendered component looking at the leadership of black women within Islam, the Nation of Islam, and Moorish Science. *Fulfills the [C] or [H] requirement.*

**RELS 3235. Muslims in America. (3)** Explores the history of Islam in North America. *Fulfills the [C] or [H] requirement.*

**RELS 3238. Asians in the Americas. (3)** Examines the history of Asian migration to the U.S. and the religious communities they have established. *Fulfills the [C] or [H] requirement.*

**RELS 3242. Philosophy of Religion. (3)** Cross-listed Course(s): PHIL 3243. Philosophical implications of religious experience, including the definitions, development, and diverse forms of the problems of belief and reason in modern thought. *Fulfills the [C] or [T] requirement.*

**RELS 3260. Buddhism in the Modern World. (3)** Evaluates a variety of perennial questions about Buddhism in the modern world: Is Buddhism a philosophy? A mind science? An ancient mystical path? A modern construct? A wide range of primary source materials are used to examine how these works shape Buddhism. We consider their pre-modern influences and turn to recent scholarship to discuss how romantic, imperialist, anti-modern, nationalist, therapeutic, and scientific frames depict one of today's most popular religions. *Fulfills the [C] or [T] requirement.*

**RELS 3270. Interpreting Asian Religions. (3)** Students learn to read, understand, and analyze sources from Asian religious traditions and critique the ways in which Asians traditions have been studied in the discipline of religion. *Fulfills the [H] or [T] requirement.*

**RELS 3300. Religion and Healing. (3)** An examination of practices of healing and their concomitant discourses of illness, health, body, society,

and cosmos across selected religious and secular traditions. *Fulfills the [C] or [T] requirement.*

**RELS 3400. Internships. (3)** Prerequisite(s): Religious Studies major or minor, 9 earned credit hours in religious studies, and permission of instructor. Cross-listed Course(s): HCAI 3112. Research and in-service training in business or community-based organizations. Specific content based on contract between student, supervising professor and cooperating organization. *May be repeated for credit up to 6 credit hours. Fulfills the [C], [H], or [T] requirement.* Approximately 120 contact hours for the semester.

**RELS 4000. Advanced Topics in Religious Studies. (3)** Prerequisite(s): Permission of instructor. *May be repeated for credit with change of topic. Fulfills the [C], [H], or [T] requirement.*

**RELS 4010. Major Figure in Religious Studies. (3)** A focused examination of the life and works of a major figure, or small set of related figures, and their significance for the study of religion. *May be repeated for credit for different figures. Fulfills the [H] or [T] requirement.*

**RELS 4040. Major Approach to the Study of Religion. (3)** A focused examination of an influential classic or contemporary approach to the study of religion, or small set of related approaches. Focuses on close reading of primary texts and developing students' critical engagement with the texts through writing and discussion. *May be repeated for credit for different approaches. Fulfills the [C] or [T] requirement.*

**RELS 4107. Early Judaism. (3)** Comparative historical and literary study of the varieties of Judaism evidenced during late antiquity (circa 70-640 C.E.), with special attention devoted to the information and development of rabbinic Judaism. *Fulfills the [H] or [T] requirement.*

**RELS 4155 Latin America. (3)** Examines the role that religion has played in the changing social, political, and economic landscape of Latin America from the colonial period through the present. *Fulfills the [C] or [H] requirement.*

**RELS 4310. Religious Experience. (3)** Examines different approaches to narratives of religious experience in order to practice how these narratives are used to understand religion in society. *Fulfills the [C] or [T] requirement.*

**RELS 4320. Religion and Language. (3)** Introduces methods for analyzing language and communication in religion. By looking closely at specific communities' uses of spoken and written language, as well as their discourses about language, students critically examine the roles that language plays in constituting people's religious experiences, and how these, in turn, can be said to shape people's communicative practices. *Fulfills the [C] requirement.*

**RELS 4600. Senior Seminar. (3)** Prerequisite(s): RELS 2600. Required of Religious Studies majors in their final year of studies.

**RELS 4657. Religion in Africa. (3)** A seminar course that offers a historically and ethnographically situated overview of contemporary issues in African religiosity. Topics include: missionization; religion in pan-African nationalism and decolonization movements; debates over monotheism and Traditional African Religion; the shifting parameters of Christianity and Islam; sorcery, witchcraft, conspiracy; divination and mediumship; human encounters with ghosts and spirits; medicine and healing; and more. *Fulfills the [C} or {H] requirement.*

**RELS 4701. Method and Theory in the Study of Religion. (3)** A close examination of primary texts representing influential classical and contemporary approaches to the study of religion. Attention given to student writing and oral presentation skills. Optional for honors students. *Fulfills the [C] or [T] requirement.*

**RELS 4790. Honors Thesis Proposal and Candidacy. (3)** Honors thesis proposal and candidacy preparation. Prospective Religious Studies Honors students take this course the semester before graduation to be eligible for RELS 4791.

**RELS 4791. Honors Thesis. (3)** Prerequisite(s): RELS 4790, permission of instructor, and approval of a proposal through the Honors College Application to Candidacy process the semester prior to taking the course. Required of all honors students. *May be repeated for credit one time.*

**RELS 4800. Independent Studies. (1 to 3)** Prerequisite(s): Permission of instructor. An independent studies course in religious studies. *May be repeated for credit.*

# Respiratory Therapy (RESP)

**RESP 3099. Special Topics in Respiratory Therapy: Emerging Respiratory Therapy Literature. (1)** An introduction to the emerging issues, trends, and news of respiratory therapy. Topics include: evidence-based literature reviews related to respiratory therapy professional practice. Topics and emphasis may vary.

**RESP 3101. Leadership Practices and Professional Writing for Respiratory Therapists. (3)** Prerequisite(s): Admission to BSRT program. A basic introduction to leadership by focusing on the history, trends, issues, and evolution of the respiratory therapy profession. Emphasis is placed on the practice of leadership, analysis of the professional environment for the current and future practice of respiratory care, and communication skills to improve leadership performance. Various topics assist students in becoming confident respiratory therapy advocates through their writing.

**RESP 3102. Extended Services in Respiratory Therapy. (3)** Prerequisite(s): Admission to BSRT program. A basic introduction into the history, trends, issues, and evolution of respiratory care extended services. Emphasis is placed on outpatient services reimbursement within the respiratory therapy profession. Topics include: selected respiratory care theories and practices in alternate healthcare sites such as virtual services, outpatient cardiopulmonary rehabilitation, interventional pulmonology, DME services, pulmonary diagnostics, sales/clinical specialties, cardiopulmonary disease education, home care, and sub-acute care.

**RESP 3103. Role of Pharmacology in Disease Management. (3)** Prerequisite(s): Admission to BSRT program. A disease management approach to patient care with an emphasis on the role of pharmacology in disease management. Builds upon a basic understanding of the concepts and principles of pharmacology as applied in the respiratory therapy in the management of patient with cardiopulmonary disease and critical care.

**RESP 3105. Advanced Critical Care Monitoring. (3)** Prerequisite(s): Admission to BSRT program. A study of advanced cardiopulmonary monitoring used with critical care patients. Topics include: hemodynamic monitoring, mechanical ventilator waveform graphic analysis, and capnography.

**RESP 3203. Cardiopulmonary Pharmacotherapy I. (2)** Prerequisite(s): Admission to BSRT program. An introduction to an integrated, case-based evaluation of the physiology, pathophysiology, and pharmacology in the treatment and management of cardiopulmonary disorders. Topic emphasis on disorders that can compromise the cardiopulmonary system.

**RESP 3204. Advanced Cardiopulmonary Physiology. (3)** Prerequisite(s): Admission to BSRT program. Advanced physiology of the cardiovascular and pulmonary systems. A study of respiratory physiology, cardiac and circulatory function with relevant clinical application of concepts in cell biology, regulation and function of the cardiovascular system, gas exchange and transport, breathing regulation, and respiratory insufficiency.

**RESP 3205. Cardiopulmonary Pharmacotherapy. (3)** An integrated, case-based evaluation of the physiology, pathophysiology, and pharmacology in the treatment and management of cardiopulmonary disorders. Topic emphasis on using a whole-system approach to patient care and the use of pharmacology in cardiopulmonary disease management.

**RESP 3206. Critical Care Monitoring and Mechanical Ventilation. (3)** Prerequisite(s): Admission to BSRT program. Introduction to advanced topics in critical care, expressed through a holistic approach to the monitoring of critically ill patients. Introduction of monitoring modalities that are commonly utilized in critical care, analysis of lab values and their significance, and association with interventions that the critical care respiratory therapist encounters during clinical practice.

**RESP 3207. Critical Care Monitoring and Mechanical Ventilation II. (2)** Prerequisite(s): Admission to BSRT program. Introduction to advanced topics in mechanical ventilation expressed through a holistic approach to the management of critically ill patients. Various modalities of positive pressure ventilation, as well as adjunct measurement tools, are presented to provide an up-to-date perspective on mechanical ventilation and patient care.

**RESP 3108. Introduction to Research Methods in Respiratory Therapy. (3)** Prerequisite(s): Admission to BSRT program. Designed to highlight foundational concepts of research methods and assist in the development of the skills necessary to plan, conduct, evaluate, and analyze quantitative and qualitative research from an interdisciplinary perspective.

**RESP 4101. Health Outcomes and Quality Assessment. (3)** Cross-listed Course(s): RESP 5101. Prerequisite(s): RESP 3101. Evidence-based methods and techniques to design, implement, and evaluate healthcare quality control/improvement initiatives, and patient and population education programs.

**RESP 4102. Department Management in the Healthcare Environment. (3)** Cross-listed Course(s): RESP 5102. Prerequisite(s): RESP 3101. Administration, financial, human resource, legal, and policy concepts and issues in outpatient, inpatient, public, and private sector settings. Topics and emphases may vary.

**RESP 4103. Evidence-Based Practice in Respiratory Care. (3)** Prerequisite(s): Admission to BSRT program. An introduction to the concept of evidence-based practice and an opportunity to acquire the skills necessary to be able to incorporate evidence and best practices into professional work. These include an understanding of research methods and the approach to critical appraisal of research literature. This is a writing-intensive course with emphasis on written professional communication.

**RESP 4105. Patient Education and Disease Management for the Respiratory Therapist. (3)** Prerequisite(s): Admission to BSRT program. A review of the pathophysiology of common chronic cardiopulmonary diseases. Develop an understanding of evidenced-based disease management principles. Understand how to develop and implement disease management and patient education programs in the in-patient and out-patient setting.

**RESP 4106. Neonatal/Pediatric Critical Care Pathophysiology. (3)** Prerequisite(s): Admission to BSRT program. A review of fetal development and circulation related to acute and chronic neonatal disease. A survey of neonatal and pediatric disease processes which affect tissues, organs, and body as a whole. Special emphasis is placed on the etiology of critical illness and a systems oriented approach to diagnosis and treatment in the neonatal and pediatric critical care settings.

**RESP 4107. Teaching Fundamentals and Clinical Education. (3)** Prerequisite(s): Admission to BSRT program. Application of curricular theory to best practices in the classroom, disease management, and patient education settings. Planning for instruction and evaluation of respiratory therapy-related learning are focal points of this experience. Offers an introduction to the systematic process of planning for effective instruction and assessment as they relate to various clinical curricular concepts.

**RESP 4108. Healthcare Outcomes and Quality Assessment: A Management Perspective. (3)** Prerequisite(s): Admission to B.S. in Respiratory Therapy. A basic introduction to the administrative, financial, legal, and policy concepts and issues in outpatient, inpatient, public, and private sector healthcare settings. Topics include: evidence-based methods and techniques in designing, implementing, and evaluating healthcare quality control and improvement initiatives.

**RESP 4111. Respiratory Therapy Capstone. (8 or 9)** Prerequisite(s): RESP 4101, RESP 4102, and RESP 4103. Experiences in a chosen focus area (clinical, administrative, or population-based). It culminates with a capstone project in the form of research, or other scholarly activity that articulates the design, organization, statistics and data analysis used, and includes an oral and written presentation of the project.

**RESP 4204. Adult Critical Care Pathophysiology. (3)** Prerequisite(s): Admission to BSRT program and RESP 3204. A survey of the adult disease processes which affect the tissues, organs, or body as a whole. Special emphasis is placed on the etiology of critical illness and a systems-oriented approach to diagnosis and treatment in the critical care setting.

**RESP 4205. Information Technology in Respiratory Care. (3)** Prerequisite(s): Admission to BSRT program. A study of the use of computer and information technology in healthcare. Emphasis placed on development of the knowledge and competencies necessary for selective use and evaluation of informatics, computer technology, and data management in healthcare.

**RESP 4206. Health Communications: Ethical and Legal Implications. (3)** Prerequisite(s): Admission to BSRT program. Focuses on the essential principles for respiratory therapists and other healthcare providers. Many ethical and legal issues that respiratory therapists may encounter in patient care settings are explored. Additional content includes discussions on professional moral dilemmas and ethical theories, which are used to illustrate principles that guide ethical decision-making.

**RESP 4208. Critical Care Pathophysiological Concepts for Respiratory Therapy. (3)** Prerequisite(s): Admission to BSRT program. Designed to survey neonatal, pediatric, and adult disease processes which affect the tissues, organs, or body as a whole. Special emphasis is placed on the etiology of critical illness and a systems-oriented approach to diagnosis and treatment in the critical care setting.

**RESP 4410. Respiratory Therapy Practicum. (3)** Experiences in a chosen focus area (clinical, education, administrative, research, or population-based). Emphasis is placed on experiential learning that results in expansion of responsibilities or transition into a new role or specialty area within the work environment.

**RESP 4910. Respiratory Therapy Capstone Project. (6)** Prerequisite(s): Admission to BSRT program. Pre- or Corequisite(s): RESP 3101, RESP 4101, RESP 4102, RESP 4103, and RESP 4107. Includes experiences in a chosen focus area (clinical, education, administrative, or population-based). Culminates in a respiratory therapy-related capstone project in the form of research, or other scholarly activity that articulates the design, organization, implementation, statistics, and data analysis used, and includes an oral and written presentation of the project.

# Educational Research, Measurement, and Evaluation (RSCH)

**RSCH 4101. Education Research Methods. (3)** An orientation to designs and procedures utilized in educational research, emphasizing basic principles for conducting research, interpreting and evaluating published articles representative of educational problems and issues. *May be repeated one time if student receives a grade of C or below.*

# Russian (RUSS)

**RUSS 1201. Elementary Russian I. (3)** Fundamentals of the Russian language, including speaking, listening comprehension, reading, and writing.

**RUSS 1202. Elementary Russian II. (3)** Prerequisite(s): RUSS 1201. Fundamentals of the Russian language, including speaking, listening comprehension, reading, and writing.

**RUSS 2201. Intermediate Russian I. (3)** Prerequisite(s): RUSS 1202 or permission of department. Review of grammar, with conversation and composition based upon readings in Russian culture and civilization.

**RUSS 2202. Intermediate Russian II. (3)** Prerequisite(s): RUSS 2201 or permission of department. Continuation of grammar, conversation, and composition skills, based on readings in Russian literature.

**RUSS 3060. Topics in Russian. (3)** Prerequisite(s): one RUSS 2000-level course or permission of instructor. Study of a particular facet of the Russian language, culture, or literature. Conducted in English. No knowledge of Russian required. *May be repeated with change of topic.*

**RUSS 3061. Topics in Russian. (1 to 3)** Prerequisite(s): one RUSS 2000-level course or permission of instructor. Study of a particular facet of the Russian language, culture, or literature. Conducted in English. No knowledge of Russian required. *May be repeated with change of topic.*

**RUSS 3201. Advanced Russian Grammar, Composition, and Conversation I. (3)** Prerequisite(s): RUSS 2202 or permission of department. Intensive review of Russian grammar, plus mastery of new grammatical structures, while performing written and oral task-oriented activities. Acquisition of new vocabulary in a cultural context.

**RUSS 3202. Advanced Russian Grammar, Composition, and Conversation II. (3)** Prerequisite(s): RUSS 3201 or permission of department. Intensive practice of Russian grammar, speaking, and writing. Additional Russian civilization and culture as students improve their language skills.

**RUSS 3203. Advanced Russian Grammar and Conversation. (3)** Prerequisite(s): RUSS 3201 or permission of department. Advanced Russian grammar and conversation on prepared topics. Emphasis on vocabulary, idiomatic expressions, and stylistics.

**RUSS 3204. Masterpieces of Russian Literature. (3)** Examines the greatest authors and masterpieces of Russian literature, including Tolstoy, Dostoevsky, and Chekhov. All readings, discussions, and assignments are conducted in English. No knowledge of Russian required.

**RUSS 3209. Russian Civilization and Culture. (3)** Geographical, historical, and artistic features of Russian culture, as well as aspects of life, thought, behavior, attitudes, and customs of the Russian-speaking people. Lectures, discussions, and viewing of films. Conducted in English. No knowledge of Russian required.

**RUSS 3800. Directed Individual Study. (1 to 4)** Prerequisite(s): RUSS 3202 or permission of department. Individual work on a selected area of study. To be arranged with the instructor during the preceding semester. By special permission only. *May be repeated for credit.*

# Secondary Education (SECD)

**SECD 3800. Individual Study in Secondary Education. (1 to 6)** Prerequisite(s): Permission of the student's advisor. Independent study under the supervision of an appropriate faculty member. *May be repeated for credit.*

**SECD 4140. Adolescence and Secondary Schools. (3)** Prerequisite(s): MDSK 2100 and admission to Teacher Education. Corequisite(s): MDSK 3151. Overview of secondary education, including the foundational components and instructional programs appropriate for contemporary adolescents in a diverse U.S. society.

**SECD 4440. Student Teaching/Seminar: 9-12 Secondary Education. (15)** Prerequisite(s): Permission of department for admission to student teaching. Student teaching is a planned sequence of experiences in the student's area of specialization conducted in an approved school setting under the supervision and coordination of a university supervisor and a clinical educator. During student teaching, the student must demonstrate the competencies identified for their specific teaching field in an appropriate grade level setting. The student is assigned 15 weeks in a school setting. Includes seminars. Participating students pay a course registration fee for edTPA portfolio assessment. *Graded on a Pass/No Credit basis.*

**SECD 4452. Student Teaching/Seminar: 9-12 Secondary Math. (12)** Prerequisite(s): Departmental permission for admission to student teaching. Corequisite(s): MDSK 4150. Student teaching is a planned sequence of experiences in the student's area of specialization conducted in an approved school setting under the supervision and coordination of a university supervisor and a clinical educator. During student teaching, the student must demonstrate the competencies identified for their specific teaching field in an appropriate grade level setting. The student is assigned 15 weeks in a school setting. Includes seminars. Participating students pay a course registration fee for edTPA portfolio assessment.

**SECD 4453. Student Teaching/Seminar: 9-12 Secondary Science. (12)** Prerequisite(s): Departmental permission for admission to student teaching. Corequisite(s): MDSK 4150. Student teaching is a planned sequence of experiences in the student's area of specialization conducted in an approved school setting under the supervision and coordination of a university supervisor and a clinical educator. During student teaching, the student must demonstrate the competencies identified for their specific teaching field in an appropriate grade level setting. The student is assigned 15 weeks in a school setting. Includes seminars. Participating students pay a course registration fee for edTPA portfolio assessment.

**SECD 4454. Student Teaching/Seminar: 9-12 Secondary Social Studies. (12)** Prerequisite(s): Departmental permission for admission to student teaching. Corequisite(s): MDSK 4150. Student teaching is a planned sequence of experiences in the student's area of specialization conducted in an approved school setting under the supervision and coordination of a university supervisor and a clinical educator. During student teaching, the student must demonstrate the competencies identified for their specific teaching field in an appropriate grade level setting. The student is assigned 15 weeks in a school setting. Includes seminars. Participating students pay a course registration fee for edTPA portfolio assessment.

# Systems Engineering (SEGR)

**SEGR 2105. Computational Methods for Systems Engineering I. (3)** Prerequisite(s): ENGR 1300, ENGR 1302, and MATH 1242 with grades of C or above or permission of department; Systems Engineering major; and Sophomore, Junior, or Senior standing. Introduces programming languages and computational algorithms that are often used by Systems Engineers. Object-Oriented Programming Language, specifically Python, is emphasized.

**SEGR 2106. Engineering Economic Analysis. (3)** Prerequisite(s): Systems Engineering major; and Sophomore, Junior, or Senior standing or permission of department. Covers economic analysis of engineering alternatives, including time value of money, cash flow analysis, cost estimation, project evaluation, accounting and budgeting tools. The use of AI in economic decision support will be discussed.

**SEGR 2110. Systems Engineering Concepts. (3)** Prerequisite(s): SEGR 2105 with grade of C or above; and Engineering major or minor. Introduction to systems engineering concepts through various application problems. The focus is particularly on systems engineering problems that utilize mathematical modeling and machine learning skills. The course culminates upon completion of a hands-on term project.

**SEGR 2111. Introduction to Engineering Management. (3)** Prerequisite(s): ENGR 1300 with a grade of C or better; and Engineering major or minor. Focuses on the fundamentals of engineering management, providing students with management principles and practices and the role of engineering management professionals. Technology advances and their impact on management philosophies, including globalization and artificial intelligence will be discussed.

**SEGR 2121. Introduction to Logistics Systems and Supply Chains. (3)** Prerequisite(s): ENGR 1300 with a grade of C or better, and Engineering major or minor. Focuses on the fundamentals in logistics systems and supply chain operations. It provides students the understanding of the operations in logistics systems and global supply chains and the roles of logistics/supply chain professionals in global business environment. In addition, the term project assignment requires to embrace the applications of AI in the supply chain operations.

**SEGR 3102. System Simulation, Modeling, and Analysis. (3)** Prerequisite(s): STAT 3128 with grade of C or above; and Engineering major or minor. Focuses on the study of discrete-event simulation and its integration with machine learning techniques for the analysis, design, and optimization of complex systems. Students will learn how to use simulation software for simulation modeling and analysis, and apply machine learning algorithms specifically reinforcement learning, to: (i) Model and analyze complex systems, (ii) Optimize system performance, (iii) Make data-driven decisions, and (iv) Improve system design and operations.

**SEGR 3103. Human System Interface. (3)** Prerequisite(s): SEGR 2105 with grade of C or above or permission of department; and Engineering major or minor. Explores the interface between human, organizational, and systems operations, focusing on the impact of human and cultural

factors on the effectiveness of system operations in a global business environment. This course delves into the human-centered aspects of systems operations, including: (i) Human-AI collaboration and augmentation, (ii) Cultural and social implications of AI adoption and (iii) Human factors in system design and optimization.

**SEGR 3105. Computational Methods for Systems Engineering II. (3)** Prerequisite(s): SEGR 2105 with grade of C or above; and Engineering major or minor. Topics in data analytics and basic machine learning skills, such as regression, classification, data processing, and model validation, by using R programming and packages.

**SEGR 3107. Decision and Risk Analysis. (3)** Prerequisite(s): SEGR 2106; STAT 3128 with grade of C or above; and Engineering major or minor. Useful tools for analyzing difficult decisions and making the right choice. After introducing the main elements of decision making, the course focuses on structuring decisions using decision trees and influence diagrams. Decisions under conflicting objectives and multiple criteria are also covered, as well as sensitivity and risk analysis. Techniques such as multi-objective decision trees and Analytic Hierarchic Process (AHP) are discussed. Additional topics include decisions without probabilities, risk attitudes, utility functions, value of information and subjective probabilities. Students work on an applied term project related to decision and risk analysis.

**SEGR 3110. System Design and Deployment. (3)** Prerequisite(s): SEGR 3105; PHYS 2102; and Engineering major or minor. Introduction to various systems engineering applications that require data analytics and machine learning skills. The emphasis is on both descriptive and prescriptive analytics problems by implementing statistical computing, supervised learning, and unsupervised learning. The course culminates upon completion of a hands-on term project.

**SEGR 3111. Project Management. (3)** Prerequisite(s): STAT 3128 or STAT 1222; and Engineering major or minor. Focuses on the study of various aspects of project management techniques and issues, and the use of conceptual, analytical, and systems approaches in managing engineering projects and activities. It includes the development and writing of project plans and reports for engineering and business operations. In addition, the term project assignment requires to embrace the applications of AI in the operations.

**SEGR 3132. Facilities Planning and Material Handling Systems. (3)** Prerequisite(s): SEGR 2101 with grade of C or above or permission of department; and Engineering major or minor. Focuses on the basics in facility planning, plant layout design, material handling systems design and integration, and warehousing. The emphasis is on the effective design and integration of plant layout, material handling systems, and warehousing for supply chain operations.

**SEGR 3201. Operations Research I: Deterministic Models. (3)** Cross-listed Course(s): OPRS 3111. Prerequisite(s): Systems Engineering major; and MATH 1242 and MATH 2164 with grades C or above. Introduces various deterministic Operations Research topics such as linear programming, integer programming, nonlinear programming, network flow problems, dynamic programming, and game theory.

**SEGR 3202. Operations Research II: Stochastic Models. (3)** Cross-listed Course(s): OPRS 3113. Prerequisite(s): Systems Engineering major; and MATH 2164 and STAT 3128 with grades of C or above. Introduces various stochastic Operations Research topics such as decision-making under uncertainty, probabilistic inventory models, Markov chains, probabilistic dynamic programming, and queueing theory.

**SEGR 3290. Systems Design Project I. (2)** Prerequisite(s): SEGR 2110 ;SEGR 3110; and SEGR 3102 or SEGR 3107 with a grade of C or above; and Systems Engineering major with 30 or less credit hours remaining in degree requirements. First of a two-semester sequence leading to a major integrative system design experience in applying the principles of systems design and analysis and project management to the design of a system. Teamwork and communication skills are emphasized. It focuses on the development of the project plan and proposal for the capstone systems design project. Each student develops a complete systems design project plan and proposal and makes an oral presentation of the proposal to the faculty. It runs in conjunction with the project management course.

**SEGR 3291. Systems Design Project II. (2)** Prerequisite(s): SEGR 3290 with grade of C or above; and Systems Engineering major. A continuation of SEGR 3290 for the execution of the proposed systems design project. Includes a mid-term written progress report with an oral presentation and a final written report, plus the final oral presentation to demonstrate project results.

**SEGR 3695. Systems Engineering Cooperative Education Seminar. (1)** Prerequisite(s): ENGR 3500; and Engineering major or minor. Required of students during semesters immediately following each work assignment for presentation of engineering reports on co-op work done in the prior semester. *Graded on a Pass/No Credit Basis. May be repeated for credit.*

**SEGR 3890. Individualized Study. (1 to 3)** Prerequisite(s): Permission of department. Supervised individual study within an area of a student's particular interest which is beyond the scope of existing courses. *May be repeated for credit up to 3 credit hours.*

**SEGR 4090. Special Topics. (1 to 6)** Prerequisite(s): Engineering major or minor. Directed study of current topics of special interest.

**SEGR 4101. Network Modeling and Analysis. (3)** Prerequisite(s): SEGR 3201 with grade of C or above or SEGR 4952 with grade of C or above; and Engineering major or minor. Explores formulation and solution of optimization problems using network flow algorithms. Topics include: minimum flow problems shortest path, maximum flow, transportation, assignment, minimum spanning trees. Efficient solution algorithms are investigated.

**SEGR 4114. Production Control Systems. (3)** Cross-listed Course(s): EMGT 5114. Prerequisite(s): STAT 1220, STAT 1221, STAT 1222, or STAT 3128 with grade of C or above; SEGR 3201; and Engineering major or minor. Pre- or Corequisite(s): SEGR 3202. Principles, analysis and design of production and inventory planning and control systems. Some of the main discussions include learning/experience curves, capacity planning, demand forecasting, aggregate production planning, inventory planning, supply chains, production scheduling, and line balancing. Practical modeling approaches including some deterministic, stochastic models and some optimization-based solution techniques in production planning are discussed. Students work on an applied term project related to production planning.

**SEGR 4141. Engineering Experimental Design. (3)** Cross-listed Course(s): EMGT 5141. Prerequisite(s): STAT 3128 with grade of C or above; and Engineering major or minor. Focuses on how to achieve high-quality/low-cost systems based on Taguchi methods, design of experiments methods, and statistical analysis of data. Also includes introduction to response surface methods.

**SEGR 4142. Reliability Management and Survival Analysis. (3)** Cross-listed Course(s): EMGT 5142. Prerequisite(s): STAT 3128 with grade of C or above; and Engineering major or minor. Introduces various reliability and survival analysis techniques. Topics include: reliability/survival functions, failure/hazard rate functions; parametric/non-parametric/semi-parametric techniques; Jensen Shannon Divergence, Kullback-Leibler Divergence, and Wasserstein distance for Generative Data Modeling; Conditional Value at Risk.

**SEGR 4150. Leadership Skills for Engineers. (3)** Prerequisite(s): Junior or Senior standing and Engineering major or minor. Focuses on skills needed to be an effective leader in business and industry in the 21st Century. The course includes introduction to leadership styles and how they are employed in organizations. The course covers leadership skills and competencies and introduces students to the impact of AI and global communications on organization and leadership.

**SEGR 4154. Bayesian Analysis for Human Decision. (3)** Cross-listed Course(s): EMGT 5154. Prerequisite(s): STAT 3128 with grade of C or above. The Bayesian approach to decision-making with numerous applications in engineering, business, and healthcare. Topics include Information Theory; Signal Detection and ROC curve; Principle Components and Structural Equation Modeling; d-Separation, Bayesian networks and Causality Inference. *May be repeated for credit.*

**SEGR 4170. Total Quality Systems. (3)** Cross-listed Course(s): EMGT 5170. Prerequisite(s): STAT 3128 with grade of C or above; and Engineering major or minor. Applicable principles and practice in continuous quality improvement (CQI) and Total Quality Management (TQM). Statistical process control, root cause analysis, management and planning tools as well as how Generative AI can be used to enhance the effectiveness and efficiency of statistical quality control processes. All of the above are discussed through assignments and team projects. Leadership and communication skills are also a part of the class.

**SEGR 4201. Fundamentals of Deterministic System Analysis. (3)** Cross-listed Course(s): EMGT 5201. Prerequisite(s): MATH 2164. The course is partitioned into three modules: refresher of linear algebra with introduction to data analytics applications, continuous optimization focused on linear systems, and discrete optimization by integer programming and dynamic programming. *May be repeated for credit.*

**SEGR 4202. Fundamentals of Stochastic System Analysis. (3)** Cross-listed Course(s): EMGT 5202. Prerequisite(s): STAT 3128 with grade of C or above; MATH 2164; and SEGR 3202. The fundamentals of stochastic system analysis. The course is dissected into three modules: probability and statistics, stochastic models, and regression analysis. *May be repeated for credit.*

**SEGR 4203. Fundamentals of Engineering Management. (3)** Cross-listed Course(s): EMGT 5203. Prerequisite(s): STAT 3128 with grade of C or above. The fundamentals of engineering management. The course is dissected into three modules: engineering economics, decision and Bayesian analysis, and game theory. *May be repeated for credit.*

**SEGR 4952. Engineering System Optimization. (3)** Prerequisite(s): SEGR 3201 with grade of C or above; Senior standing; and Engineering major or minor. Nonlinear optimization and integer programming are introduced along with hands-on projects. Machine learning applications are utilized for nonlinear optimization. Decomposition methods are discussed along with integer programming.

**SEGR 4961. Introduction to Energy Systems. (3)** Prerequisite(s): Basic math, economics, or permission of instructor; Junior or Senior standing; and Engineering major or minor. Overview of energy systems: energy types, generation, conversion, storage, transportation/transmission, and utilization. Principles, physical structure, processes, and utilization of fossil fuel, nuclear, and renewables for transportation, thermal, and electrical energy generation are discussed along with associated performance metrics. Also provides an introduction to environmental impacts of energy production, life-cycle analysis, energy efficiency concepts and metrics, transmission systems, grid reliability, and the impact of smart grid technologies. All topics are presented in the context of industry standards as well as federal and state regulations.

**SEGR 4962. Energy Markets. (3)** Prerequisite(s): Basic math, economics, or permission of instructor; Junior or Senior standing; and Engineering major or minor. Energy and power systems in regulated and competitive environments and implications on business decisions for firms in these industries. Topics include: mechanism of energy markets; comparative market systems; determination of prices under different market structures; gas, oil, coal, and electricity market architecture; electricity market design; dispatch and new build decisions; smart grid and renewable energy in electricity markets; risk and risk management in energy, including demand and price volatility and use of financial derivatives; and the impact of financial market trends and current and proposed policies on the energy industry.

**SEGR 4963. Energy Systems Planning. (3)** Prerequisite(s): Basic math, economics, or permission of instructor; Junior or Senior standing; and Engineering major or minor. Optimal planning of resources, logistics, distribution and storage in the end to end energy value chain from upstream natural gas production through mid-stream transportation and storage to downstream power generation, utility distribution and consumption. Regression, neural networks and other AI techniques for load forecasting, and optimizing generation, transmission, and distribution planning to meet the forecasted loads. Power systems reliability and control, preventive maintenance, predictive maintenance, process and service quality control.

**SEGR 4964. Case Studies in the Energy Industry. (3)** Prerequisite(s): Basic math, economics, or permission of instructor; Junior or Senior standing; and Engineering major or minor. Interpret and analyze real world business cases in the energy sector. Cases explore the concepts behind natural monopolies, utility ownership, regulation and de-regulation, utility rates, and service standards. Additionally, economic concepts such as supply and demand, market pricing, producer surplus, monopolistic pricing and ratemaking (regulatory goals, revenue requirements, and the rate base and rate cases) are applied. Some of the cases explore decision-making strategies surrounding marginal prices, congestion management, congestion revenue, electric and gas transmission rights both in terms of physical versus financial markets,

locational marginal prices (LMP), financial transmission rights in terms of revenue adequacy and auction revenue rights, and typical energy trading hedging practices.

## Sociology (SOCY)

**SOCY 1101. Introduction to Sociology. (3)** The scientific study of society and its structures, culture and its building blocks, and group interactions; the sociological perspective and process; fundamental concepts, principles, and procedures to understand society.

**SOCY 1501. Global Social Science: Sociological Approaches to Global Issues. (3)** This Global Theme course uses the methods and insights of the social sciences to explore the central question of what it means to be a citizen of the world. Through the study of one or more different peoples, societies or cultures across the globe, students will be able to better understand themselves as part of complex, interconnected world. Students are introduced to the central principles of sociology through an examination of various social, cultural, economic, and political issues within a global context.

**SOCY 1511. Local Social Science: Sociological Approaches to Local Issues. (3)** This Local Theme course uses the methods and insights of the social sciences to explore the central question of what it means to be a member of a "local" community. Through the study of the experiences of different peoples, cultures, and communities in our city, our region, or our nation, students will be able to better understand the complexity and diversity of the society in which we live. SOCY 1511 introduces students to the central principles of sociology through an examination of various social, cultural, economic, and political issues.

**SOCY 2090. Topics in Sociology. (1 to 3)** Examination of specialized topics. *May be repeated for credit with change of topic.*

**SOCY 2100. Aging and the Lifecourse. (3) (SL)** Cross-listed Course(s): GRNT 2100. An interdisciplinary course that examines the phenomenon of aging and its consequences for society from a variety of perspectives. Students participate in lectures, discussions and service learning projects designed to give them a broad overview of the field of gerontology. Emphasis on the wide variation in the aging process and approaches to meeting the needs of the aging population.

**SOCY 2107. Global Hip Hop. (3)** Cross-listed Course(s): AFRS 2107. The development and growth of Hip Hop from a US inner city Black expressive culture to a global subaltern social movement. Examines cultural production in Hip Hop in relation to the contemporary global issues that focus on the youth, subalterns, and postcolonial experiences.

**SOCY 2112. Popular Culture. (3)** Analysis of popular forms of everyday life in America: fashions, fads, entertainment trends, advertising, television programming, music, myths, stereotypes, and icons of mass-mediated culture.

**SOCY 2115. Introduction to Organizations. (3)** Prerequisite(s): SOCY 1101, SOCY 1501, or SOCY 1511. The ubiquity of formal organizations is a distinctively modem phenomenon. Today, organizations not only dictate activities at the workplace, but also exert profound impacts on nearly all aspects of modem life. As one of the most vibrant and fast growing branches of the discipline, organizational sociology provides the conceptual tools to understand a variety of organizational processes. In this course, you are introduced to some of the basic concepts and topics in organizational sociology. Special emphases will be placed on the social impacts of organizations.

**SOCY 2126. World Population Problems. (3)** Cross-listed Course(s): ANTH 2126. An examination of various world population "problems," such as growth, migration, fertility, and population aging, in order to learn how cultural, political, economic, and environmental factors influence and are influenced by the population structure of a given society.

**SOCY 2132. Sociology of Marriage and the Family. (3)** Cross-cultural examination of family; socialization and sex roles; love, dating, and mate selection; communication; sexuality; power and decision making; parenthood; childlessness; conflict and violence; divorce, remarriage, and stepfamilies; and future family.

**SOCY 2161. Sociological Social Psychology. (3)** Prerequisite(s): SOCY 1101, SOCY 1501, or SOCY 1511. How the actual, imagined or implied presence of other people influences a person's thoughts, feelings and behavior. Socialization, self and identity, attitudes, social perception, language, and group processes.

**SOCY 2163. Sociology of Gender. (3)** Changing patterns of gender inequality; socialization and social structure as basis of gendered behavior, ideologies, and relationships. Alternative gender models and social movements as vehicles to diminishing gender inequality.

**SOCY 2169. Sociology of Health and Illness. (3)** The cultural and structural influences on the definition of health and illness; models of illness behaviors; health demography and epidemiology; social influences on the delivery of healthcare; ethical issues surrounding health and illness; and the development of relevant social policy.

**SOCY 2171. Social Problems. (3)** Contemporary social problems and consequences for American society.

**SOCY 3090. Topics in Sociology. (1 to 3)** Prerequisite(s): SOCY 1101, SOCY 1501, or SOCY 1511. Examination of specialized sociological topics. *May be repeated for credit with change of topic.*

**SOCY 3110. American Minority Groups. (3)** Prerequisite(s): SOCY 1101, SOCY 1501, or SOCY 1511. Relations between dominant and minority groups; the establishment, maintenance, and decline of dominance involving racial, ethnic, and religious minorities.

**SOCY 3120. Examining Institutional Racism: Implications for Contemporary Leadership. (1 to 3)** Prerequisite(s): SOCY 1101 and permission of instructor. A collaborative effort among scholars and the professor to employ the Sociological approach to the investigation and understanding of institutional racism. Implications for emerging leaders and the employment of antiracist attitudes and actions are discussed. The concepts of institutional racism and antiracism are introduced, and then specific topics are reviewed throughout the term. In addition to deepening the knowledge and understanding that students gain and share, all are called to action at the end of the semester. The intellectual pursuit and generation of ideas should not be the end point, but the

beginning of ideas and strategies for action. *May be repeated for credit up to 6 credit hours.*

**SOCY 3125. Older Worker and Retirement. (3)** Cross-listed Course(s): GRNT 3125 and PSYC 3125. Physical characteristics, personal attitudes, and structural factors affecting the employment of persons over 40. Topics include: biological aging, myths and stereotypes about older workers, public policies, human resources practices, economics of retirement, and theories about career and life stages.

**SOCY 3132. Sociology of Sport. (3)** Prerequisite(s): SOCY 1101, SOCY 1501, or SOCY 1511. Dynamics and emergence of sport; reciprocal influence between sport and society; values, norms, and roles in sports.

**SOCY 3134. Families and Aging. (3)** Prerequisite(s): SOCY 1101, SOCY 1501, or SOCY 1511. Cross-listed Course(s): GRNT 3134. Theories explaining the formation and functioning of American families with emphasis on the impact of the aging of society. Examination of the current demographic trends and expectations of multigenerational families, as well as the future demands and modifications.

**SOCY 3143. Social Movements. (3)** Prerequisite(s): SOCY 1101, SOCY 1501, or SOCY 1511. Analysis of collective behavior, ideology, development, and organizations of movements seeking or resisting change.

**SOCY 3153. Sociological Theory. (3)** Prerequisite(s): SOCY 1101 with a grade of C or above, SOCY 1501 or SOCY 1511, and Sociology major or minor. Origins and evolution of fundamental sociological concepts and theories.

**SOCY 3155. Sociological Research Methods. (4)** Prerequisite(s): SOCY 1101 with a grade of C or above, SOCY 1501 or SOCY 1511, and Sociology major or minor. Formulation of research problems; research designs; social measurement; sampling; collection, analysis, and interpretation of data. Three hours of lecture/discussion and completion of weekly laboratory units.

**SOCY 3173. Criminology. (3)** Prerequisite(s): SOCY 1101, SOCY 1501, or SOCY 1511. Nature and historical development of crime and political-economic organization of crime, criminal law, and theories of crime causation.

**SOCY 3250. Political Sociology. (3)** Cross-listed Course(s): POLS 3250. Prerequisite(s): SOCY 1101, SOCY 1501, or SOCY 1511. Sociological analysis of the relationship between social, economic and political systems. Focuses on power relations in society and its effects on the distribution of scarce resources. Topics covered may include: theories of power and the nation state, political participation and voting, religion and politics, the comparative welfare state, media and ideology, the global economy, war and genocide, revolutions, and social movements. Not open to students who have credit for POLS 3251.

**SOCY 3261. Human Sexuality. (3)** Prerequisite(s): SOCY 1101, SOCY 1501, or SOCY 1511. Human sexuality research; teenage pregnancy; birth control; sex education; sexual fantasy; pornography; homosexuality and bisexuality; sexual communication; and heterosexual alternatives.

**SOCY 3267. Sociology of Dying, Death, and Bereavement. (3)** Cross-listed Course(s): GRNT 3267. Social definitions of death, process of dying, facing death across the life course, grief, bereavement, bioethical issues impacting individuals and society.

**SOCY 3271. Sociology of Culture. (3)** Prerequisite(s): SOCY 1101, SOCY 1501, or SOCY 1511. Examines different understandings of "culture" in sociological theory and research, addressing both classical formulations and contemporary applications. Considers how Marx, Weber, and Durkheim conceptualized culture as well as how contemporary scholars build on their ideas. Examines the role of culture in social interaction, collective identity, and collective action. Identifies sociological approaches to the production, distribution and reception of cultural products (e.g., news, music, film) as well as cultural dimensions of organizations and of social change (e.g., globalization, technology). Considers the relationship between culture and power in contemporary society.

**SOCY 3324. American Studies: The 1960s. (3)** The 1960s was a period of extraordinary conflict and change in American society. Many conventional values, attitudes, and institutions -- idealized during the 1950s -- were dramatically and openly challenged by different groups seeking 'liberation' from status quo structures perceived to be 'hollow' or corrupt. This course examines this period from a cross-disciplinary perspective, with special attention paid to the counterculture movements and the popular culture of the period.

**SOCY 3325. Community and Identity. (3) (SL)** Prerequisite(s): SOCY 1101, SOCY 1501, or SOCY 1511. Offered as part of a 6 credit hour short-term study abroad program. In this 5-week program in Manchester, UK, students: (1) learn key theories and concepts in urban sociology; (2) apply this knowledge to the study of historical and contemporary Manchester; and (3) participate in service learning opportunities with organizations in Manchester.

**SOCY 3753. Honors Sociological Theory. (3)** Prerequisite(s): Sociology major or minor, and acceptance into departmental honors program. Origins and evolution of fundamental sociological concepts and theories.

**SOCY 3755. Honors Sociological Research Methods. (4)** Prerequisite(s): Acceptance into the departmental honors program. Formulation of research problems; research designs; social measurement; sampling; collection, analysis, and interpretation of data. Three hours of lecture/discussion and completion of weekly laboratory units.

**SOCY 3769. Honors Sociology of Health and Illness. (3)** Prerequisite(s): Acceptance into Sociology honors program; and or SOCY 1501 or SOCY 1511 or permission of instructor. The cultural and structural influences on the definition of health and illness; models of illness behaviors; health demography and epidemiology; social influences on the delivery of healthcare; ethical issues surrounding health and illness; and the development of relevant social policy.

**SOCY 3798. Preliminary Honors Research in Sociology. (3)** Prerequisite(s): Acceptance into the departmental honors program and permission of department. Honors hours that must be taken to write a proposal and/or conduct preliminary research to begin writing the Honors Thesis in Sociology. SOCY 3799 must be taken the following semester to complete and defend the Honors Thesis in Sociology. *A grade*

*of "A" in SOCY 3798 is required to continue progression in the Honors Program.*

**SOCY 3799. Honors Thesis in Sociology. (3)** Prerequisite(s): SOCY 3798; acceptance into the departmental honors program; permission of department; and approval of a proposal through the Honors College Application to Candidacy process the semester prior to taking the course. The preparation and presentation of an acceptable Honors thesis or its equivalent. The final course in a required three-course sequence for Honors in Sociology. Completion of a thesis earning a passing grade meets the requirement for a 4000-level course in the major; a grade of A is required to earn honors. *The thesis must include primary or secondary research.*

**SOCY 3895. Directed Individual Study. (1 to 4)** Prerequisite(s): Permission of instructor. Supervised investigation of a sociological topic. *May be repeated for credit; up to 6 hours may be applied to the major.*

**SOCY 4090. Topics in Sociology. (1 to 3)** Prerequisite(s): SOCY 1101, SOCY 1501, or SOCY 1511. Examination of specialized sociological topics (e.g., sociology of religion, Modern Japan). *May be repeated for credit.*

**SOCY 4110. Sociology of Aging. (3)** Cross-listed Course(s): GRNT 4110. Prerequisite(s): SOCY 1101, SOCY 1501, or SOCY 1511. Study of the changing characteristics, aspirations, and needs of older adults and their impact upon such institutions as the family, work, the economy, politics, education, and healthcare; emphasis on sociological theories of aging, contemporary research, and the analysis of specific aging policies and programs.

**SOCY 4111. Social Inequality. (3)** Prerequisite(s): SOCY 1101, SOCY 1501, or SOCY 1511. Distribution of power, privilege, and prestige; correlates and consequences of inequality; national and international comparisons.

**SOCY 4112. Sociology of Work. (3)** Prerequisite(s): SOCY 1101, SOCY 1501, or SOCY 1511. The emergence of post- industrial society and technological change in the workplace; analysis of their impacts on organizations, workers, family, and community.

**SOCY 4114. Professionalism in Sociology. (3)** Prerequisite(s): SOCY 1101, SOCY 1501, or SOCY 1511. A conceptual approach to becoming a professional with a degree in sociology. Provides tools to help students enter their professional life, as well as demonstrate how the actual, imagined or implied presence of other people influences a person's thoughts, feelings, and behavior in a professional setting. Focuses on the concepts of socialization, self and identity, attitudes, social perception, language, and group processes to illustrate the different types and settings of work, and how we present, as professionals, in them.

**SOCY 4115. Organizational Sociology. (3)** Prerequisite(s): SOCY 1101, SOCY 1501, or SOCY 1511. The sociological analysis of formal organizations. Organizational structures, practices, internal processes, and their relationships with the external environment. Organizations as rational instruments designed to achieve predetermined goals, as human groups where spontaneous social interactions take place, and as organisms situated in broader social, cultural, and economic contexts.

**SOCY 4116. Sociology of Economic Life. (3)** Prerequisite(s): SOCY 1101, SOCY 1501, or SOCY 1511. Adopts a sociological view to examine economic life. Topics include: industry and market structures, social networks, and inter-organizational relationships.

**SOCY 4117. Sociology of Gender, Work, and Family. (3)** Prerequisite(s): SOCY 1101, SOCY 1501, or SOCY 1511. Gender manifests at all levels of social life and is deeply embedded in how work is organized, experienced, and rewarded. In this course, students develop a familiarity with the empirical, theoretical, and methodological foundations of research on the interrelation of gender, work and family. The course is thematically divided into two broad units. The first unit explores issues related to the construction of gender in our society and provides an overview of some of the major barriers that women, in particular, face in achieving equality in the workplace and labor market. Also discussed are how women's and men's intersecting identities (race, sexual orientations, parenthood, etc.) shape their experiences of work and consequential rewards. Building on the first unit, the second unit investigates sociological issues related to family challenges that men and women face and how they intersect with workplace inequality. Addressed are divisions of labor in the home, workplace policies, and the state of millennials' attitudes toward equality and behaviors in the home in order to assess the future of gender progress.

**SOCY 4121. Globalization and Development. (3)** Prerequisite(s): SOCY 1101, SOCY 1501, or SOCY 1511. Introduces different views and arguments on the nature, impact, and trend of globalization in sociology and other related fields. Explores broad implications of globalization and how the globalization processes transform our world economically, politically, socially, and culturally.

**SOCY 4122. Immigration Policy. (3)** Immigration is once again transforming the United States and the world. Immigrants in the United States today come from more diverse countries than prior immigrant waves and are settling in new destination areas with little history of immigration. These changes create unique economic, political, and social challenges, as well as opportunities. As a result, there are fierce debates regarding the benefits of immigration and effective means of promoting immigrant incorporation. This course considers these debates. It is anchored in the U.S. case, but also considers lessons from other nations and the impacts of global migration. The course is open to any students with an interest in immigration and a willingness to examine issues that raise difficult moral, political, and academic questions.

**SOCY 4125. Urban Sociology. (3)** Prerequisite(s): SOCY 1101, SOCY 1501, or SOCY 1511. Cross-cultural analysis of urban development, social structure, ecology, demographic composition, and social problems.

**SOCY 4126. Food Insecurity. (3) (SL)** Prerequisite(s): SOCY 1101, SOCY 1501, or SOCY 1511. Food is life. This service-learning course examines the root causes of food insecurity in America, the groups most affected, and the best solutions for overcoming challenges; from community outreach to federal legislation. Because a segment of our UNC Charlotte student body also struggles with food insecurity, class participants have the opportunity to explore what food insecurity looks like on campus by visiting the Jamil Niner Student Pantry. Through readings, discussions, classroom activities, and writing assignments, students have the opportunity to enhance their sociological imagination, develop and sharpen their critical thinking skills, and be introduced to new theories and concepts.

**SOCY 4135. Sociology of Education. (3)** Prerequisite(s): SOCY 1101, SOCY 1501, or SOCY 1511. Educational institution; the school class as a social system; the school as a social environment and a complex organization.

**SOCY 4153. Contemporary Sociological Theory. (3)** Prerequisite(s): SOCY 1101 with a grade of C or above, SOCY 1501 or SOCY 1511, and Sociology major or minor. Elements and process of theory construction; contemporary social theories, such as theories of social order and causation, power, class structure, and inequality; group process theories; post-modern theories. Not open to students who have credit for SOCY 4154.

**SOCY 4156. Quantitative Analysis. (4)** Prerequisite(s): Sociology major or minor; SOCY 1101 with a grade of C or above, SOCY 1501 or SOCY 1511, and Sociology major or minor; and STAT 1220, STAT 1221, STAT 1222, or equivalent statistics course. Corequisite(s): SOCY 4156L. Concepts and procedures of sociological analysis; data processing; measurement theory; and quantitative models of analysis. Three hours of lecture/discussion and completion of weekly laboratory units.

**SOCY 4156L. Quantitative Analysis Laboratory. (0)** Prerequisite(s): Sociology major or minor; SOCY 1101 with a grade of C or above, SOCY 1501 or SOCY 1511, and Sociology major or minor; and STAT 1220, STAT 1221, STAT 1222, or equivalent statistics course. Corequisite(s): SOCY 4156. Required laboratory session for SOCY 4156. Three hours of lecture/discussion and completion of weekly laboratory units.

**SOCY 4160. Evolution and Gender. (3)** The implications of evolution for gender and gender differences and the social patterns and trends that result. These patterns and trends include gender differences in mate selection, sexual behavior, aggression, emotional experience, and communication styles, as well as differences in parental investment by gender. Also examines how evolutionary theory can illuminate the origins of patriarchy.

**SOCY 4165. Sociology of Women. (3)** Prerequisite(s): SOCY 1101 or SOCY 1501 or SOCY 1511 or permission of instructor. Examines how the social world of women is influenced by their race, ethnicity, and class. Attention is given to changing roles of women in public and private spheres and to the role conflict that arises as women attempt to meet obligation in families, communities, and the workplace.

**SOCY 4168. Sociology of Mental Health and Illness. (3)** Prerequisite(s): SOCY 1101 or SOCY 1501 or SOCY 1511 or permission of instructor. Mental health and illness in its social context; relationship between social structures and mental health/disorder. How social factors affect the definition and treatment of mental disorders; the effects of demographic variables on mental health and illness; the role of social support and stress; the organization, delivery and evaluation of mental healthcare services; and considerations of mental healthcare policy.

**SOCY 4169. Health Disparities. (3)** Prerequisite(s): SOCY 1101 or SOCY 1501 or SOCY 1511 or permission of instructor. Introduction to medical sociological concepts and frameworks necessary to understand health disparities. Examines race, class, and gender-based patterns of inequality. Explores mechanisms that help create and maintain inequality in health, with a focus on racial disparities in physical health.

**SOCY 4172. Sociology of Deviant Behavior. (3)** Prerequisite(s): SOCY 1101, SOCY 1501, or SOCY 1511. Social definition of deviance; examination of the social processes producing unusual, non-standard, and condemned behavior; and social responses to deviant behavior. *Students can receive credit for either SOCY 4172 or SOCY 4173, but not both.*

**SOCY 4263. Group Processes. (3)** Prerequisite(s): SOCY 1101 or SOCY 1501 or SOCY 1511, or permission of instructor. Study how small groups structure social life, including the purposes and functions of groups, the various problems and dilemmas that groups face, how the dimensions of status and power shape how individuals behave in groups, and what happens when groups engage in conflict with each other. Study how larger social structures-like organizations and institutions-affect individuals through the small groups they inhabit. Examine the theories that explain group behavior and learn about the methods that social scientists employ when studying small groups.

**SOCY 4264. Status Processes. (3)** Prerequisite(s): SOCY 1101 or SOCY 1501 or SOCY 1511, or permission of instructor. Status characteristics are markers that identify socially valued properties of individuals. This course examines familiar status characteristics in society, including gender, race, and educational attainment; identify theories that explain status processes; and clarify how these theories help scholars understand phenomena related to several status characteristics.

**SOCY 4265. Social Psychology of Law. (3)** Cross-listed Course(s): LEGL 4265. Prerequisite(s): SOCY 1101, SOCY 1501, or SOCY 1511. Systematic analysis and application of theoretical and empirical research pertaining to the social psychological study of law.

**SOCY 4267. Sociology of the Internet. (3)** Scientific study of the Internet using sociological theory to provide a conceptual approach with which to understand the digital society in which we live and interact, while enhancing student understanding of the tools and ideas with which to analyze interactions within our digital society.

**SOCY 4271. Sociology of Music. (3)** Prerequisite(s): SOCY 1101, SOCY 1501, or SOCY 1511. Considers sociological research dealing with the production of music; the content of music; and the reception and uses of music. Students assess how individuals and groups use music; how social distinctions like race, class, and gender shape the production and consumption of music; why some types of music are considered "high culture" while other types are considered "popular culture;" how the collective production of music is made possible; and what factors facilitate musical innovation and diversity.

**SOCY 4290. The Experience of Loneliness. (3)** Cross-listed Course(s): GRNT 4290. Explores the experience of loneliness among older adults in society. Drawing on academic texts, empirical research, and personal accounts of loneliness, the aim is to identify the extent of loneliness experienced by older adults in various contexts. In particular, the readings consider the consequences of loneliness on the physical, mental, and social well-being of older adults.

**SOCY 4366. Minorities and Aging. (3)** Cross-listed Course(s): GRNT 4366. Prerequisite(s): SOCY 1101, SOCY 1501, or SOCY 1511. An overview of diversity in aging through a multidisciplinary lens. Key concepts and current research findings concerning older adults are discussed within a historical gerontological context. Drawing from the rich contributions of several disciplines (e.g., gerontology, sociology, social work,

psychology), the course challenges students to consider complex issues of aging and their unique impact on diverse older populations.

**SOCY 4371. Comparative Cultural Sociology in the Netherlands. (3)** Prerequisite(s): SOCY 1101, SOCY 1501, or SOCY 1511. Offered as part of the spring break study abroad program in the Netherlands. Students develop an understanding of the theoretical and methodological tools used in comparative research on cultural sociology, while also being engaged in a global experience in the Netherlands.

**SOCY 4480. Internship in Sociology. (3-6)** Prerequisite(s): Permission of department. Research and/or in-service training for selected students in cooperating community organizations. Specified content based upon a contract between student, department, and community organization. *May be repeated for credit up to 6 credits. Graded on a Pass/No Credit basis.*

**SOCY 4482. Undergraduate Teaching Internship in Sociology. (3-9)** Prerequisite(s): Permission of department. Students work with Sociology faculty member as a teaching intern. Students must have previously taken the course for which they intern. Specified content based upon a contract between student, department, and supervising Sociology faculty member. *May be repeated for credit up to nine semester hours, with only three semester hours fulfilling SOCY 3000/4000 level elective credit. Graded on a Pass/No Credit basis.*

**SOCY 4699. Senior Seminar in Sociology. (3)** Prerequisite(s): Sociology major or minor; SOCY 1101 with grade of C or above; SOCY 3153 or SOCY 4153, with grade of C or above; SOCY 3155 with grade of C or above; and SOCY 4156 with grade of C or above. This capstone course draws upon all of the skills that the Sociology student has learned, including understanding interactions among individuals, groups, and social institutions in society; applying major sociological concepts; understanding major social theories; posing research questions, evaluating evidence, and developing logical arguments; and selecting research methods appropriate to sociological inquiry. Students produce a capstone e-portfolio which allows them to demonstrate these sociological skills.

**SOCY 4756. Honors Quantitative Analysis. (4)** Prerequisite(s): Sociology major or minor; acceptance into departmental honors program; and STAT 1220, STAT 1221, STAT 1222, or equivalent statistics course. Corequisite(s): SOCY 4756L. Concepts and procedures of sociological analysis; data processing; measurement theory; and quantitative models of analysis. Three hours of lecture/discussion and completion of weekly laboratory units.

**SOCY 4756L. Honors Quantitative Analysis Laboratory. (0)** Prerequisite(s): Sociology major or minor; acceptance into departmental honors program; and STAT 1220, STAT 1221, STAT 1222, or equivalent statistics course. Corequisite(s): SOCY 4756. SOCY 4756L is an ungraded lab session that accompanies the lecture course for SOCY 4756. Students will complete weekly laboratory units.

**SOCY 4763. Honors Sociology of Group Processes. (3)** Prerequisite(s): SOCY 1101 or SOCY 1501 or SOCY 1511, and acceptance in departmental honors program. Study how small groups structure social life, including the purposes and functions of groups, the various problems and dilemmas that groups face, how the dimensions of status and power shape how individuals behave in groups, and what happens when groups engage in conflict with each other. Study how larger social structures-like organizations and institutions-affect individuals through the small groups they inhabit. Examine the theories that explain group behavior and learn about the methods that social scientists employ when studying small groups.

**SOCY 4765. Honors Social Psychology of Law. (3)** Prerequisite(s): SOCY 1101 or SOCY 1501 or SOCY 1511, or permission of instructor; Acceptance into the departmental honors program. Systematic analysis and application of theoretical and empirical research pertaining to the social psychological study of law.

**SOCY 4773. Honors Sociology of Deviant Behavior. (3)** Prerequisite(s): SOCY 1101 or SOCY 1501 or SOCY 1511, and acceptance into the departmental honors program. Social definition of deviance; examination of the social processes producing unusual, non-standard, and condemned behavior; and social responses to deviant behavior.

## Social Work (SOWK)

**SOWK 1101. The Field of Social Work. (3)** Introduction to social work, social science methods, analysis of contemporary issues, and evaluation of the interconnections of individual, society, and culture. *May not be taken for credit and for a grade if credit has been received for SOWK 1511.*

**SOWK 1111. Social Work and the Black Agenda.** (1) This course will enhance students' understanding of social work and how the profession addresses issues within the black community. Definitions and theories that provide the structure of social work practice will be discussed. Topics include social work competencies, assessment of major institutions, and tools for advocacy.

**SOWK 1511. Local Social Science: Issues of Health and Quality of Life. (3)** All Local Theme courses explore the central, unifying question of what it means to be a member of the "local" community in which we live. Through the study of the experiences of different peoples, cultures, and communities in our city, our region, or our nation, students will be able to better understand themselves in the context of the complex and diverse society in which we live. As representatives of the profession and its mission, social workers know the profession's history, values, and ethical standards. This course introduces the students to these topics. In addition, this course provides an interdisciplinary overview of the populations and where practice areas social workers serve, the educational requirements to become a social worker, and the options for certification and licensure. *May not be taken for credit and for a grade if credit has been received for SOWK 1101.*

**SOWK 2182. Human Behavior in the Social Environment I. (3)** Prerequisite(s): Social Work major. Human development within the biological, psychological, and social structure as it occurs throughout the lifespan.

**SOWK 2183. Human Behavior in the Social Environment II. (3)** Prerequisite(s): Social Work major. The foundational framework for understanding human interaction between individuals, families, communities, and larger social systems.

**SOWK 2184. Writing for the Social Work Profession. (1)** An introduction to writing for the social work profession.

**SOWK 3090. Topics in Social Work. (1 to 3)** Specialized topics in social work. *May be repeated for credit with change of topic.*

**SOWK 3120. Diversity and Populations-at-Risk. (3)** Prerequisite(s): Upper-Division Social Work major. Analysis of issues of race, ethnicity, gender, sexual orientation, social class, age, and ability within social work practice.

**SOWK 3133. Community Engagement and Outreach. (3)** Prerequisite(s): Upper-Division Social Work major. Students engage in experiential learning in order to effectively prepare for social work practice with vulnerable populations, and specifically to enhance their ability to build relationships and facilitate access.

**SOWK 3180. Case Management. (1)** Prerequisite(s): Upper-Division Social Work standing. An introduction to effective case management skills in the profession of social work. Students develop skills to create client-centered service plans, link clients to resources, and case documentation. Students are required to demonstrate the core competencies of social work case management.

**SOWK 3181. Practice Methods I. (3)** Prerequisite(s): Upper Division Social Work major. Development of competencies within generalist social work practice methods with an emphasis on working with individuals.

**SOWK 3182. Practice Methods II. (3)** Prerequisite(s): Upper-Division Social Work major and SOWK 3181 with grade of C or above. Development of competencies within generalist social work practice methods with an emphasis on working with families and groups.

**SOWK 3184. Practice Methods III. (3)** Prerequisite(s): Upper-Division Social Work major and SOWK 3181 with grade of C or above. Development of competencies within generalist social work practice methods with an emphasis on working with communities and large systems.

**SOWK 3199. Professional Behaviors, Ethics, and Communication. (3)** Prerequisite(s): Upper-Division Social Work major. Issues related to professional values, professional identity, continual learning, and best practices for social workers in a variety of practice situations.

**SOWK 3201. Foundations of Social Welfare. (3)** Prerequisite(s): Upper-Division Social Work major. History of and current trends in social welfare, and values and conflicts that influence social welfare programming.

**SOWK 3202. Social Welfare Policy. (3)** Prerequisite(s): Upper-Division Social Work major and SOWK 3201 with grade of C or above. Critical analysis of social welfare policy, including policy development and reform processes and outcomes.

**SOWK 3482. Social Work Practicum I. (3)** Prerequisite(s): Upper-Division Social Work major and SOWK 3181 with grade of C or above. Students complete an approved supervised practicum experience for 16 hours per week. Students concurrently participate in a practicum seminar to reinforce and enhance their practicum experience.

**SOWK 3484. Social Work Practicum II. (3)** Prerequisite(s): Upper-Division Social Work major and SOWK 3482 with grade of C or above. Students complete an approved supervised practicum experience for 16 hours per week. Students concurrently participate in a practicum seminar to reinforce and enhance their practicum experiences.

**SOWK 3900. Social Work Research I. (3)** Prerequisite(s): Upper-Division Social Work major; STAT 1220 or STAT 1222. Introduces scientific and ethical approaches to building knowledge while focusing on quantitative and qualitative research methods, research design, and sampling techniques. Students will be introduced to scientific and ethical approaches to building knowledge while focusing on quantitative and qualitative research methods, research design, and sampling techniques.

**SOWK 3988. Social Work Research II. (3)** Prerequisite(s): Upper-Division Social Work major and SOWK 3900 with grade of C or above. Quantitative and qualitative research and the understanding of scientific and ethical approaches to building knowledge.

**SOWK 4090. Topics in Social Work. (1 to 3)** Cross-listed Course(s): SOWK 5090. Specialized topics in social work. *May be repeated for credit with change of topic.*

**SOWK 4101. Social Work Practice with Older Adults. (3)** Cross-Listed Course(s): SOWK 5101. Prerequisite(s): Permission of department. Social work practice with older adults with an emphasis on assessment, intervention planning, and implementation.

**SOWK 4102. School Social Work. (3)** Prerequisite(s): Admission into the Upper Division BSW Program or permission of the BSW Program Coordinator. Provides a foundation for preparation as a school social worker. For students who are currently employed as school social workers, this course enhances and broadens communication, engagement, and assessment skills.

**SOWK 4103. Child Welfare. (3)** Prerequisite(s): Admission into the Upper Division BSW Program or permission of the BSW Program Coordinator. Examination of the history, purpose, and goals of child welfare services in North Carolina and in the United States. Course information is provided from the context of the child- and family-centered model that guides child welfare services.

**SOWK 4105. Mental Health and Substance Use. (3)** Increases awareness of mental health and substance abuse issues with both macro and micro practices being highlighted. Students are empowered to engage as agents of change for those vulnerable populations affected by mental illness and/or substance use disorders.

**SOWK 4106. Social Work Practice with Latino Communities. (3)** Enhances knowledge, values, and skills with regard to social work practice with Latino communities. Integrates an experiential education component, including a combination of class, community, and independent work.

**SOWK 4109. Systems of Care for Vulnerable Populations. (3)** Cross-listed Course(s): SOWK 5109. Focuses on engaging diversity and difference in practice in relation to social work skills with individuals, families, and groups.

**SOWK 4110. Social Work Practice with Immigrants and Refugees. (3)** Cross-listed Course(s): SOWK 5110. Development of the skills, knowledge, values, and critical thinking capacity to practice social work with immigrants and refugees. Students: 1) describe historical and theoretical perspectives of migration, 2) analyze the intersection of migration with core areas of social work practice, including child welfare, criminal justice, education, mental health, and health systems, and 3) develop culturally responsive advocacy efforts and intervention strategies to improve immigrant and refugee well-being.

**SOWK 4114. Social Work to Improve LGBT+ Health & Well-Being. (3)** A system-level examination of social work practice and its impact on the health and well-being of LGBT+ community. This course will explain the diverse roles, functions, and skills of social workers that impact the health and well-being of the LGBTQ+ Community, describe the history and challenges of the LGBTQ+ Community, and evaluate past and current macro level changes that advance equity in the LGBTQ community including societal attitudes, beliefs, laws, and policies.

**SOWK 4125. Social Development in Malawi. (3)** Cross-listed Course(s): SOWK 5125. Students actively participate in several pre-departure class lectures and work sessions. They travel to Malawi for 11 days and engage in service-learning activities aligned with social development in rural Malawi. Experiential projects are designed and implemented by students using funds they raise. Sustainability and anti-oppressive approaches to social development are highlighted.

**SOWK 4126. Health and Well-Being in India. (3)** Cross-listed Course(s): HLTH 4090, HLTH 6090, and SOWK 5126. Health and well-being in India.

**SOWK 4230. Advocacy and Aging. (3)** Cross-listed Course(s): GRNT 4230. Introduces learners to the impact ageism has on us as we age and the role that advocacy can play in addressing ageism. Learners will develop skills in identifying ageist systems and increase their understanding of the use of social media as a tool for advocacy with practical hands-on experiences. Topics Include: Universal and historical context of ageism & ageist systems of oppression; Intersectionality in aging & advancing equity for older adults; Ethical Responsibilities to Older Adults & the Broader Society; Advocacy efforts for people living with dementia; Framing language when advocating; and Tools and strategies that help to disrupt ageist language, using social media.

**SOWK 4280. The Experience of Dementia. (3)** Cross-listed Course(s): GRNT 4280, GRNT 5280. An overview of Alzheimer's disease and related dementias with a focus on the biological, neurological, and social aspects of these diseases. Students will gain a holistic insight into these diseases and their implications for both individuals and society.

**SOWK 4353. Environments for Aging. (3)** Cross-listed Course(s): GRNT 4353, GRNT 5353. With roots in environmental psychology, this course explores the ways in which older adults experience and interact with their physical environment at both the macro and micro levels. Students will be introduced to the Americans with Disabilities Act, Universal Design, Age-Friendly communities, and housing options for older adults. This course will examine these programs from a national and local viewpoint.

**SOWK 4365. Grief and Loss Across the Lifespan. (3)** Cross-listed Course(s): GRNT 4365, GRNT 5365, and SOWK 5365. Prepares the professional practitioner to understand and respond effectively to individuals, families, groups, organizations and communities experiencing both symbolic and tangible losses and accompanying grief reactions. Topics include: theories of normal and complicated grief, factors that influence grief at different stages of the life span, cultural and spiritual influences, traumatic loss, anticipatory grief and end of life care, the impact of loss and working in close contact with grief on professionals, and skills and strategies that address therapeutic needs of vulnerable and resilient populations experiencing grief.

**SOWK 4366. Early Childhood Mental Health. (3)** Prerequisite(s): Admittance to the program covers undergraduate and graduate prerequisite requirements. Cross-listed Courses(s): SOWK 5366. Highlights the relevance of early relationships between children and their parents, families, and other care providers to later health, mental health, and social adjustment. The emphasis will be on how the social environment and neuroanatomy during the earliest years of life interact to shape later functioning. This course will cover basic evidence-based prevention and interventions for young children and their caregivers. Students should have some familiarity with child developmental theory.

**SOWK 4367. Child Centered Social Work. (3)** An in-depth exploration of child-centered social work practice, emphasizing both theoretical foundations and practical applications. It provides a comprehensive overview of methodologies and approaches aimed at supporting the well-being and development of children in various social contexts. Students will explore an ecological-developmental framework for helping children. The course will cover a range of intervention strategies, including family engagement, play therapy, group work, and school-based interventions. Key topics include assessing child welfare, promoting resilience, and advocating for children's rights within systems such as education and child welfare. Through case studies, role-playing exercises, and discussions, students will develop skills in communication, assessment, and intervention tailored to the unique needs of children. *May be repeated for credit.*

**SOWK 4368. Racism in Social Work: Dismantling Racism in America. (3)** The purpose of this course is to prepare students to respond to social work's professional obligations to counter discrimination and oppression and to practice effectively with marginalized groups and those from differing cultures and life experiences. The course assumes that competent social work practice requires an understanding of dominant and non-dominant cultural structures and client differences. It underscores the personal and professional use of self within various cultural contexts and among varying client populations. The course recognizes the importance of applying social justice approaches and cultural humility to various aspects of practice on all levels including assessment, planning, research, intervention, and evaluation.

**SOWK 4369. Adolescent Development: Challenges and Safety. (3)** Cross-listed Course(s): SOWK 5090. Adolescence is a critical period marked by physical, cognitive, emotional, and social transformations. This course explores the unique developmental processes, challenges, and safety considerations associated with adolescence. It aims to equip students with a comprehensive understanding of the factors influencing adolescent development and the strategies to address the challenges they may encounter.

**SOWK 4370. Social Determinants of Health. (3)** Introduces students to the population health perspective, social determinants of health,

health disparities, and health equity. Social workers need to know how to identify and address social determinants of health and health disparities and ways social work policy and practice can improve health equity for affected populations so that the community will be more responsive and effective to community needs with clients. This course facilitates the development of advanced practice skills in engaging and assessing organizations.

**SOWK 4371. Military Policy, Intervention, and Treatment. (3)** This specialized populations course focuses on the study of military policy, intervention, and treatment from a social work perspective. Students will explore the historical and contemporary policies affecting military personnel, with an emphasis on mental health, trauma-informed care, and family support systems. The course includes an in-depth analysis of intervention strategies and treatment modalities, supported by current research and best practices.

**SOWK 4372. Sports Social Work. (3)** Provides students with a wide-ranging review of sport social work. This course will help social workers interested in the field learn how to effectively promote the safety and well-being of athletes, advocate for athlete rights, and ensure athletes receive the recognition and help needed to become strong global leaders. This course will discuss (1) interprofessional collaboration with others in the athletic space, (2) health and well-being issues facing athletes, (3) sport social work theory, (4) engaging and assessing athlete needs, (5) clinical interventions in sport, and (6) an introduction to sport social work policy.

# Spanish (SPAN)

**SPAN 1101. Elementary Spanish I. (3)** For students with limited or no previous experience in Spanish. First course in a two-course sequence to develop competence in culture, speaking and writing, and listening and reading comprehension in Spanish. This course is equivalent to SPAN 1201, but taught fully in the classroom.

**SPAN 1102. Elementary Spanish II. (3)** Prerequisite(s): SPAN 1101, SPAN 1201, or equivalent. For students with limited or no previous experience in Spanish. Second course in a two-course sequence to develop competence in culture, speaking and writing, and listening and reading comprehension in Spanish. This course is equivalent to SPAN 1202, but taught fully in the classroom.

**SPAN 1201. Elementary Spanish I. (4)** For students with limited or no previous experience in Spanish. First course in a two-course sequence to develop competence in culture, speaking and writing, listening and reading comprehension in Spanish. This course is equivalent to SPAN 1101, but 50% of the course is conducted online.

**SPAN 1202. Elementary Spanish II. (4)** Prerequisite(s): SPAN 1101, SPAN 1201, or equivalent. Second course in a two-course sequence to develop competence in culture, speaking and writing, listening and reading comprehension in Spanish. This course is equivalent to SPAN 1102, but 50% of the course is conducted online.

**SPAN 1205. Accelerated Elementary Spanish I and II. (4)** For students with some previous experience or training in Spanish. Accelerated development of competence in culture, speaking, and writing, listening and reading comprehension in Spanish. Equivalent of SPAN 1201 and SPAN 1202 conducted in one semester. Fulfills two-semester language requirement.

**SPAN 1502. Global Arts/Humanities: Cultures of the Hispanic World. (3)** This Global Theme course uses the methods and insights of the social sciences to explore the central question of what it means to be a citizen of the world. Through the study of one or more different peoples, societies or cultures across the globe, students will be able to better understand themselves as part of a complex, interconnected world. Students are introduced to critical studies of language and culture through a broad engagement with the influence and presence of Spanish throughout the world. Course materials may draw widely from language, literature, history, linguistics, film, pop culture, music, cuisine, media, and the arts. Taught in English.

**SPAN 1512. Local Arts/Humanities: US Hispanic, Latina/o/x Topics. (3)** This Local Theme course uses the methods and insights of the arts and humanities to explore the central question of what it means to be a member of a "local" community. Through the study of the experiences of different peoples, societies, cultural traditions, and modes of expression in communities at the city, regional, or national level, students will be able to better understand the complexity and diversity of the society in which we live. Students are introduced to critical studies of language through a broad engagement with the contributions and presence of Spanish, Hispanic and Latina/o/x cultures in the United States. Course materials may draw widely from language, literature, history, linguistics, film, pop culture, music, cuisine, media, and the arts. Taught in English.

**SPAN 2009. Hispanic Literature in English Translation. (3)** Studies of Spanish or Spanish American literature in translation. Course conducted in English. Not applicable toward Spanish major. *May be repeated for credit with change of topic.*

**SPAN 2050. Topics in Spanish. (1 to 3)** Prerequisite(s): SPAN 1202 or permission of department. Study of a particular facet of the Spanish language, culture, or literature. *May be repeated for credit with change of topic.*

**SPAN 2105. Spanish Communication Skills Development I. (3)** Prerequisite(s): SPAN 1202. Corequisite(s): SPAN 2201 is recommended. Fulfills the 2000-level language requirement for non-Spanish majors. Continued practice in all four skills: speaking, listening, reading, and writing.

**SPAN 2106. Spanish Communication Skills Development II. (3)** Prerequisite(s): SPAN 2201 or permission of department. Corequisite(s): SPAN 2202 is recommended. Continued practice in all four skills: speaking, listening, reading, and writing.

**SPAN 2200. Spanish for Reading Knowledge. (3)** Prerequisite(s): SPAN 1202 or equivalent. Review of Spanish grammar with emphasis on developing reading skills. Taught primarily in English. Does not count for major or minor credit.

**SPAN 2201. Intermediate Spanish I. (3)** Prerequisite(s): SPAN 1202 or permission of department. Corequisite(s): SPAN 2105 is recommended. Continued training in grammar. Intensive practice in reading, writing, and speaking.

**SPAN 2202. Intermediate Spanish II. (3)** Prerequisite(s): SPAN 2201 or permission of department; SPAN 2105 is also recommended. Corequisite(s): SPAN 2106 is recommended. Builds on skills acquired in the first semester intermediate level. Introduces advanced grammatical concepts.

**SPAN 2210. Introduction to Spanish for Commerce. (3)** Prerequisite(s): SPAN 1202 or permission of department. Fundamentals of commercial Spanish, study of the language, protocol, and cultural environment of the Spanish-speaking business world. Basic business vocabulary, cultural concepts, and grammatical review through situational practice. Fulfills the 2000-level language requirement for non-Spanish majors.

**SPAN 3009. Masterpieces of Hispanic Literature in English. (3)** Prerequisite(s): Sophomore, Junior, or Senior standing; and WRDS 1103 or WRDS 1104 with a grade of C or above; or permission of instructor. Advanced studies of Spanish or Spanish-American literature in English translation. Course conducted in English; knowledge of Spanish not required. Not applicable toward a Spanish major or minor; however, it may count as an elective course for the B.A. in Spanish with Concentration in Hispanic Studies. *May be repeated for credit with change of topic.*

**SPAN 3019. Hispanic Women Writers in English Translation. (3)** Cross-listed Course(s): LTAM 3319 and WGST 3019. Prerequisite(s): Sophomore, Junior, or Senior standing; and WRDS 1103 or WRDS 1104 with a grade of C or above; or permission of instructor. Examination of prose and poetry by women writers from Spain and the Americas to understand women's voices and other cultures. Conducted in English; knowledge of Spanish not required. Not applicable toward Spanish major or minor; however, it may count as an elective course for the B.A. in Spanish with Concentration in Hispanic Studies.

**SPAN 3030. Business and Culture in the Hispanic Caribbean Region. (3)** Prerequisite(s): WRDS 1103 or WRDS 1104 with a grade of C or above. Development of intercultural understanding and communication skills for conducting business in the greater Hispanic Caribbean region. Conducted in English. Not applicable toward Spanish major or minor; however, it may count as an elective course for the B.A. in Spanish with Concentration in Hispanic Studies.

**SPAN 3050. Topics in Spanish. (1 to 3)** Prerequisite(s): SPAN 2202 or equivalent. Study of a particular facet of the Spanish language, culture, or literature at the 3000 level not covered by other SPAN courses. *May be repeated for credit with change of topic.*

**SPAN 3160. Studies in Hispanic Film. (3)** The study of Spanish Peninsular, Spanish American, or Hispanic/Latino films. Conducted in English. Not applicable toward Spanish major or minor; however, it may count as an elective course for the B.A. in Spanish with Concentration in Hispanic Studies. *May be repeated for credit with change of topic.*

**SPAN 3201. Advanced Spanish Grammar and Composition I. (3)** Prerequisite(s): SPAN 2202 or permission of department. Cross-listed Course(s): HCAI 3112. Advanced studies in Spanish grammar, composition, syntax, and rhetoric. Native and heritage speakers of Spanish may take SPAN 3203 in lieu of SPAN 3201 and SPAN 3202, but they must also take one additional 3000- or 4000-level Spanish course.

**SPAN 3202. Advanced Spanish Conversation and Composition. (3)** Prerequisite(s): SPAN 2202 or permission of department. Study and practice of formal, academic presentations and reports both written and oral. Introduction to concepts in elocution and phonetics. Native and heritage speakers of Spanish may take SPAN 3203 in lieu of SPAN 3201 and SPAN 3202, but they must also take one additional 3000- or 4000-level Spanish course.

**SPAN 3203. Spanish for Heritage Speakers. (3)** Prerequisite(s): SPAN 2202, equivalent, or permission of department (native or heritage speaker of Spanish, as determined by the student's advisor). For students who speak Spanish at home or who have lived for more than two years in a Spanish-speaking country. Develops speaking and writing skills in a formal, academic context. Topics include: history, literature, culture, and linguistics of the Spanish-speaking world. Heritage speakers should take this course in lieu of SPAN 3202.

**SPAN 3208. Introduction to Literary Analysis. (3)** Cross-listed Course(s): LTAM 3308. Pre- or Corequisite(s): SPAN 3201, SPAN 3202, or SPAN 3203 or permission of department. Continued work with vocabulary building and reading skills. Introduction to the theory and practice of reading literary texts in Spanish.

**SPAN 3209. Spanish Civilization and Culture. (3)** Pre- or Corequisite(s): SPAN 3201, SPAN 3202, SPAN 3203 or permission of department. Introduction to the cultural heritage of peninsular Spain.

**SPAN 3210. Spanish American Civilization and Culture. (3)** Pre- or Corequisite(s): SPAN 3201, SPAN 3202, SPAN 3203 or permission of department. Introduction to the cultural heritage of Spanish America.

**SPAN 3220. Spanish for Business and International Trade. (3)** Cross-listed Course(s): LTAM 3120. Prerequisite(s): SPAN 3201, SPAN 3202, or SPAN 3203, or permission of department. Introduction to spoken and written language of the Spanish-speaking business world. Acquisition of and practice with general commercial terminology used in Spanish for such functional business areas as economics, management, marketing, finance, and import-export.

**SPAN 3221. Spanish for Criminal Justice. (3)** Prerequisite(s): SPAN 3201, SPAN 3202, SPAN 3203, or permission of department. Spoken and written language related to communicative needs in the field of criminal justice. Provides students with the major content and terminology used in the U.S. legal system.

**SPAN 3222. Spanish for Medical and Healthcare. (3)** Prerequisite(s): SPAN 3201, SPAN 3202, SPAN 3203, or permission of department. Spoken and written language related to communicative needs for healthcare professionals. Emphasis on terminology, phraseology, and etymology necessary for effective communication in principal healthcare and medical fields and settings.

**SPAN 3225. Short-Term Abroad. (3)** Prerequisite(s): Permission of instructor. Faculty-led short-term study abroad experience offered during Spring Break.

**SPAN 3409. Service Learning in the Hispanic Community. (3)** Prerequisite(s): Two SPAN 3000-level courses and permission of instructor. Introduction to the Charlotte-Mecklenburg community, focusing on issues of local Hispanic communities today. Offers a faculty-

supervised service learning component in a cooperating professional (e.g., business), community, or educational organization.

**SPAN 3800. Directed Individual Study. (1 to 3)** Prerequisite(s): Permission of department; normally open only to Spanish majors and minors. Individual work on a selected area of study. To be arranged with the instructor during the preceding semester. By special permission only. *May be repeated for credit.*

**SPAN 4050. Selected Topics in Spanish. (1 to 3)** Prerequisite(s): two SPAN 3000-level courses or permission of department. Consideration of a predetermined topic not covered by other SPAN courses. *May be repeated for credit with change of topic.*

**SPAN 4120. Advanced Business Spanish I. (3)** Prerequisite(s): two of the following: SPAN 3201, SPAN 3202, SPAN 3203, SPAN 3220; or permission of department. Advanced studies in Business Spanish, intensive intercultural communication practice in speaking, listening comprehension, reading, writing, and translation/interpretation in functional business areas such as economics, management, banking, accounting, real estate, office systems, and human resources.

**SPAN 4121. Advanced Business Spanish II. (3)** Prerequisite(s): ): two of the following: SPAN 3201, SPAN 3202, SPAN 3203, SPAN 3220; or permission of department. Advanced studies in Business Spanish, intensive intercultural communication practice in speaking, listening comprehension, reading, writing, and translation in functional business areas such as goods and services, marketing, finance, and import-export.

**SPAN 4201. Nineteenth Century Spanish Literature. (3)** Prerequisite(s): Two SPAN 3000-level courses. Strongly recommended to have completed SPAN 3208. Survey of peninsular literature from Costumbrismo through the Generation of 1898.

**SPAN 4202. Twentieth Century Spanish Literature. (3)** Prerequisite(s): Two SPAN 3000-level courses. Strongly recommended to have completed SPAN 3208. Pre- or Co-requisite(s): SPAN 4208 or SPAN 4209 . Treatment of major literary developments from the Generation of 1898 to present day.

**SPAN 4205. Novel of the Golden Age. (3)** Prerequisite(s): Two SPAN 3000-level courses. Strongly recommended to have completed SPAN 3208. *Lazarillo* through *El Criticón*.

**SPAN 4206. Theater of the Golden Age. (3)** Prerequisite(s): Two SPAN 3000-level courses. Strongly recommended to have completed SPAN 3208. Study of works of the leading dramatists of the period.

**SPAN 4208. Survey of Spanish Peninsular Literature. (3)** Prerequisite(s): SPAN 3201, SPAN 3202, or SPAN 3203, or permission of department. Pre- or Corequisite(s): Two SPAN 3000-level courses. Strongly recommended to have completed SPAN 3208. Introduction to the literary heritage of Spain. Reading and analysis of representative works.

**SPAN 4209. Survey of Spanish American Literature. (3)** Cross-Listed Course(s): LTAM 4309. Prerequisite(s): Two SPAN 3000-level courses. Strongly recommended to have completed SPAN 3208. Introduction to the literary heritage of Spanish America. Reading and analysis of representative works.

**SPAN 4210. Studies in Spanish American Poetry. (3)** Prerequisite(s): Two SPAN 3000-level courses. Strongly recommended to have completed SPAN 3208. Studies of colonial, post-independence, twentieth century, and contemporary Spanish American poetry. *May be repeated for credit with change of topic.*

**SPAN 4211. Studies in Spanish American Prose Fiction. (3)** Prerequisite(s): Two SPAN 3000-level courses. Strongly recommended to have completed SPAN 3208. Studies of colonial, post-independence, twentieth century, and contemporary Spanish American prose fiction. *May be repeated for credit with change of topic.*

**SPAN 4212. Studies in Spanish American Theater. (3)** Prerequisite(s): Two SPAN 3000-level courses. Strongly recommended to have completed SPAN 3208. Studies of colonial, post-independence, twentieth century, and contemporary Spanish American theater. *May be repeated for credit with change of topic.*

**SPAN 4213. Cervantes. (3)** Prerequisite(s): Two SPAN 3000-level courses. Strongly recommended to have completed SPAN 3208. Study of Cervantes' masterpiece, *Don Quijote,* and/or other representative works.

**SPAN 4214. Studies in Hispanic Children's Literature. (3)** Cross-listed Course(s): LTAM 4314. Prerequisite(s): Two SPAN 3000-level courses. Strongly recommended to have completed SPAN 3208. Literary works in Spanish written for children. *May be repeated for credit with change of topic.*

**SPAN 4215. Studies in Regional Literature of the Americas. (3)** Cross-listed Course(s): LTAM 4315. Prerequisite(s): Two SPAN 3000-level courses. Strongly recommended to have completed SPAN 3208. Studies of Mexican, Central American, Caribbean, Andean, Amazonian, or Southern Cone literature. Readings from representative works. Works from non-Spanish-speaking areas read in Spanish translation. *May be repeated for credit with change of topic.*

**SPAN 4216. Social, Political, Cultural, Economic Issues in Hispanic Literature. (3)** Cross-listed Course(s): LTAM 4316. Prerequisite(s): Two SPAN 3000-level courses. Strongly recommended to have completed SPAN 3208. Contextual issues surrounding Hispanic literature.

**SPAN 4217. Topics in Hispanic Culture and Civilization. (3)** Cross-listed Course(s): LTAM 4317. Prerequisite(s): Two SPAN 3000-level courses. Strongly recommended to have completed SPAN 3208. Various topics involving the fine arts: music, dance, art, film. Applicable toward Spanish major or minor only when taught in Spanish. *May be repeated for credit with change of topic.*

**SPAN 4231. Spanish Phonetics. (3)** Prerequisite(s): Two SPAN 3000-level courses or permission of department. Detailed analysis, description, and production of Spanish sounds. Practical exercises with phonetic transcription and recordings.

**SPAN 4232. Spanish Linguistics. (3)** Prerequisite(s): Two SPAN 3000-level courses. Introduction to different fields of Spanish linguistics studies: sociolinguistics, synchronic and diachronic perspectives of phonetics, morphology, syntax, and semantics.

**SPAN 4233. History of the Spanish Language. (3)** Prerequisite(s): Two SPAN 3000-level courses. Strongly recommended to have completed SPAN 4232. The evolution of Spanish from Latin and the effects of this evolution on Spanish phonetics, morphology, syntax, and semantics.

**SPAN 4410. Professional Internship in Spanish. (1 to 6)** Prerequisite(s): Permission of department. Faculty-supervised field and/or research experience in a cooperating profession (e.g., business) or community organization within the Hispanic Community. Contents of internship based upon a contractual agreement among the student, department, and business or community organization. *Graded on a Pass/No Credit basis.*

**SPAN 4800. Directed Individual Study. (1 to 3)** Prerequisite(s): Permission of department; normally open only to Spanish majors and minors. Individual work on a selected area of study. To be arranged with the instructor, generally during the preceding semester. *May be repeated for credit.*

# Special Education (SPED)

**SPED 2100. Exceptionality in Schools and Society. (3)** An introduction to exceptionality intended for students interested in careers in U.S. schools. This required teacher education course assists future teachers and school professionals in understanding the nature of disabilities in school and society, as well as the unique needs of gifted learners. The course examines the impact of exceptionalities on learning and other life outcomes as well as the development of appropriate educational programming. As exceptional children require differentiation in inclusive classrooms, school professionals have a responsibility to provide effective educational programs for all students. This course, along with EDUC 1100 or EDUC 1511, contributes to preservice teachers' understanding of learners in American schools.

**SPED 3100. Critical Issues in Special Education. (3)** Prerequisite(s): SPED 2100, admission to Teacher Education, and admission to Special Education Program. Examines legislation and litigation that govern and/or influence services for individuals with disabilities. Scrutinizes the IEP process and investigates IEP objectives that reflect the general curriculum standards. Examines one's personal philosophy of education, which reflects the diversity of students with disabilities Identifies services, networks, organizations, and publications that serve or are relevant to individuals with disabilities. Identifies and critiques instructional implications of published research.

**SPED 3173. Assessment in Special Education. (3)** Prerequisite(s): Admission to Special Education Program. An overview of the principles and practice of educational problem solving with an emphasis on formal/standardized assessment, including curriculum-based assessment and curriculum-based measurement; special education eligibility; linkages between assessment and instruction; and concepts in educational assessment of students with exceptional learning needs (ELN). Topical paper required.

**SPED 3175. Instructional Planning in Special Education. (3)** Prerequisite(s): Admission to Teacher Education; admission to Special Education Program. This introductory course addresses strategies for the development, implementation, and monitoring of Individualized Education Programs (IEPs) and related instructional planning for P-12 students with disabilities within the general curriculum (high incidence disabilities) or adapted curriculum (low incidence disabilities). Through this course, students are expected to demonstrate proficiency in using the general education curriculum to develop appropriate IEPs and lesson plans for instruction.

**SPED 3800. Individual Study in Special Education. (1 to 6)** Prerequisite(s): Admission to Teacher Education; admission to Special Education Program; and permission of the student's advisor. Independent study under the supervision of an appropriate faculty member. *May be repeated for credit.*

**SPED 4101. Data-based Decision-making Within a Multi-tiered System of Support Framework. (3)** Prerequisite(s): EDUC 4100; Admission to the Collaborative Educators in Inclusive Schools minor. This course is intended to assist educational candidates in increasing their capabilities to make data-driven instructional decisions (e.g., differentiation, tiered support, accommodations, modifications) that meet the learning needs of all students. An emphasis will be placed on teaming, high-leverage practices, the use of evidence-based practices with a multi-tiered systems of support framework (MTSS), and creating instructional environments in which all learners can be successful. Differences among learners that are influenced by development, exceptionalities, and diversity are explored using case study methodology. It is expected that students completing this course will be able to translate findings from research into data practices that guide and improve support for all learners. Field-based clinical activity required.

**SPED 4115. Autism Spectrum Disorder Across the Lifespan. (3)** Prerequisite(s): Admission to the Inclusion, Disability, and Exceptionality in American Society Minor. An overview of characteristics of learners with autism spectrum disorder (ASD) from a lifespan perspective. Diagnostic criteria of ASD will be discussed, as well as historical overview of the disorder. Students will learn to identify research-based practices to meet the needs of learners with ASD in a variety of settings such as home, clinic, community, and school. Current topics and issues in the field of autism will be discussed. The course is appropriate for any student who desires a career working directly with learners with ASD such as in the fields of counseling, education, psychology, and more.

**SPED 4170. Special Education: Consultation and Collaboration. (3)** Prerequisite(s): SPED 3100, SPED 3173, SPED 3175, admission to Teacher Education, and admission to Special Education Program Admission to Teacher Education; admission to Special Education Program. Provides students an opportunity to develop their knowledge base and expertise in consultation and collaboration with parents, General Education teachers, paraprofessionals, related service personnel, and/or human service personnel. This knowledge base includes the development of effective communication skills, understanding the influence of cultural diversity when working with families, professional development goal setting, and effective supervision of paraeducators. Literature case required.

**SPED 4270. Classroom Management. (3)** Prerequisite(s): SPED 3100, SPED 3175, admission to Teacher Education, and admission to Special Education Program. Equips students with the knowledge and skills of applied behavior analysis (ABA) as an approach for programming effective interventions for children and youths with disabilities. Focuses specifically on "positive behavior support" (PBS), a research-validated

approach to interventions designed to prevent problem behavior, encourage environmental management, and promote students' positive and appropriate behavior. Prepares students to conduct a functional behavioral assessment (FBA) in order to more efficiently and effectively identify the interventions to address the students' behavioral needs. The desired outcomes of this course are for students to have a basic understanding of ABA, FBA, and PBS as well as to apply these principles in a classroom setting for students with disabilities. Clinical field experience hours required.

**SPED 4271. Systematic Instruction in the Adapted Curriculum. (3)** Prerequisite(s): Admission to Teacher Education, and admission to Special Education Program. Co-requisite Course(s): SPED 3100. Principles and procedures used to develop instructional support for students who need essential skill instruction and adaptations to general curriculum. Students are required to design and implement an instructional program with a student with extensive support needs. Clinical field experience is required.

**SPED 4272. Teaching Mathematics to K-12 Learners. (3)** Prerequisite(s): SPED 3100, SPED 3175, admission to Teacher Education, and admission to Special Education Program. Provides students with effective strategies and materials for teaching math to learners in need of special education. A field-based clinical experience is a required component of the course. Assessment and application of instructional techniques are included.

**SPED 4274. General Curriculum Access and Adaptations. (3)** Prerequisite(s): SPED 3100, admission to Teacher Education, and admission to Special Education Program. Strategies for developing curricular priorities for students with extensive support needs requiring adaptations to the general curriculum including ways to link to state standards in reading, math, writing, science, and other content areas. This is a clinical intensive course requiring field experience.

**SPED 4275. Teaching Reading to Elementary Learners. (3)** Prerequisite(s): Admission to Teacher Education, and admission to Special Education Program. Effective prevention and intervention strategies for addressing the needs of elementary students with disabilities and diverse learning needs. Assessment and application of instructional strategies are included. A field experience is a required component.

**SPED 4276. Teaching Reading to Middle and Secondary. (3)** Prerequisite(s): SPED 3100, SPED 3175, SPED 4275, admission to Teacher Education, and admission to Special Education Program. Effective remedial and intervention strategies for addressing the needs of middle and secondary students with disabilities and diverse learning needs. Assessment and application of instructional strategies are included. A field experience is a required component.

**SPED 4277. Teaching Written Expression to K-12 Learners. (3)** Prerequisite(s): SPED 3100, SPED 3175, admission to Teacher Education, and admission to Special Education Program. Effective teaching strategies and materials in teaching written expression to learners in need of special education. Assessment and application of instructional strategies are included in the course. A field experience is a required component.

**SPED 4279. Content-Area Instruction for Inclusive Classrooms. (3)** Prerequisite(s): SPED 3100, SPED 3173, SPED 3175, SPED 4272, SPED 4275, admission to Teacher Education, and admission to Special Education Program. Strategies for collaborative instruction, instructionally relevant use of computer-based technology, and strategic instruction to improve access of students with disabilities in the general curriculum with an emphasis on content-area instruction at the middle and secondary levels: English, science, social studies, and mathematics. Application of instructional strategies are included. A field experience is a required component.

**SPED 4280. Instruction and Support for Learners with Extensive Support Needs. (3)** Prerequisite(s): SPED 3100, SPED 3173, SPED 3175, SPED 4270, admission to Teacher Education, and admission to Special Education Program. Describes various secondary disabling conditions that sometimes occur in conjunction with intellectual disability such as physical disabilities, sensory disabilities, and other health impairments. Assessment, instructional methods and procedures, and collaborative service delivery with related services personnel are studied. A field experience is a required component.

**SPED 4281. Communication Instruction for Students with Extensive Support Needs. (3)** Prerequisite(s): SPED 3100 and admission to Teacher Education. Preparation for teacher candidates to design and implement strategies for teaching communication skills and designing responsive environments to facilitate meaningful interactions between students with extensive support needs who have limited or no vocal communication and those around them. A field-based clinical placement is required.

**SPED 4316. Transition Planning and Service Delivery. (3)** Prerequisite(s): SPED 3100, SPED 3175, admission to Teacher Education, and admission to Special Education Program. Methods and procedures used in preparing students with disabilities for the world of work and independence are studied. A field-based clinical assignment of approximately 15 hours is required.

**SPED 4318. Collaboration and Transition-Focused Education. (3)** Prerequisite(s): Admission to Teacher Education and admission to Special Education program. Provides special educators with knowledge relating to the role of parents, paraeducators, administrators, other professionals, and students on multi-disciplinary teams, initiatives in building inclusive programs, and the array of services available to children with disabilities. Also provides skills in effective communication; promoting family involvement, including families who are culturally diverse; team planning, and collaborative instruction. The course responds to the professional competencies established by the Council for Exceptional Children, which form the basis of the NCATE standards, and North Carolina Department of Public Instruction, including the North Carolina Professional Teaching Standards and the North Carolina Specialty Area Standards.

**SPED 4400. Integrated Instructional Applications in Special Education. (3)** Prerequisite(s): SPED 4272 and SPED 4275. Pre- or Corequisite(s): SPED 4277. Corequisite(s): SPED 4277. Implementation and analysis of behavioral and instructional strategies for students with special needs in clinical settings. Candidates develop and apply knowledge of varied learner needs by planning and implementing lessons that align to state standards in academic content areas designed to meet the individual needs of students with disabilities. Additionally,

candidates analyze student outcome data and make instructional decisions for subsequent lessons. This is a clinical intensive course requiring extensive classroom experience.

**SPED 4475. Student Teaching/Seminar: Special Education K-12: General Curriculum. (15)** Prerequisite(s): Admission to Teacher Education; admission to Special Education Program; application to Student Teaching; completion of electronic portfolio Evidence 2 and Evidence 3. Student teaching is a planned sequence of experiences in the student's area of specialization conducted in an approved school setting under the supervision and coordination of a university supervisor and a clinical educator. During student teaching, the student must demonstrate the competencies identified for their specific teaching field in an appropriate grade level setting. The student is assigned 15 weeks in a school setting. Includes seminars. Participating students pay a course registration fee for edTPA portfolio assessment. *Graded on a Pass/No Credit basis.*

**SPED 4476. Student Teaching/Seminar: Special Education K-12 Adapted Curriculum. (15)** Prerequisite(s): Admission to Teacher Education; admission to Special Education Program; application to Student Teaching; completion of electronic portfolio Evidence 2 and Evidence 3. Student teaching is a planned sequence of experiences in the student's area of specialization conducted in an approved school setting under the supervision and coordination of a university supervisor and a clinical educator. During student teaching, the student must demonstrate the competencies identified for their specific teaching field in an appropriate grade level setting. The student is assigned 15 weeks in a school setting. Includes seminars. Participating students pay a course registration fee for edTPA portfolio assessment. *Graded on a Pass/No Credit basis.*

## Special and Elementary Education (SPEL)

**SPEL 3100. Introduction to Special Education and Dual Program. (3)** Prerequisite(s): Admission to Teacher Education, admission to Dual Program; EDUC 1100 or EDUC 1511; and SPED 2100. Introduces students to the dual program and examines legislation and litigation that govern and/or influence services for individuals with disabilities. Scrutinizes the IEP process and investigates IEP objectives that reflect the general curriculum standards. Examines one's personal philosophy of education, which reflects the diversity of students with disabilities. Identifies services, networks, organizations, and publications that serve or are relevant to individuals with disabilities. Identifies and critiques instructional implications of published research.

**SPEL 3173. Assessment in Special Education and Elementary Education. (3)** Prerequisite(s): SPEL 3100 and admission into Special Education and Elementary Education Dual Major Program. Provides an overview of the principles and practice of educational problem solving with an emphasis on formal/standardized assessment, including curriculum-based assessment and curriculum-based measurement; special education eligibility; linkages between assessment and instruction; and concepts in educational assessment of students receiving educational services in special education and general education contexts.

**SPEL 4171. Special Education: Consultation and Collaboration in Elementary Schools. (3)** Prerequisite(s): Admission to Teacher Education. Provides students an opportunity to develop their knowledge base and expertise in consultation and collaboration with parents, General Education teachers, paraprofessionals, related service personnel, and/or human service personnel. This knowledge base includes the development of effective communication skills, understanding the influence of cultural diversity when working with families, professional development goal setting, and effective supervision of paraeducators.

**SPEL 4477. Student Teaching/Seminar: Special Education General Curriculum and Elementary Education K-6 (Dual Program). (15)** Student teaching is a planned sequence of experiences in the student's area of specialization conducted in an approved school setting under the supervision and coordination of a university supervisor and a clinical educator. During student teaching, the student must demonstrate the competencies identified for their specific teaching field in an appropriate grade level setting. The student is assigned 15 weeks in a school setting. Includes seminars. Participating students pay a course registration fee for edTPA portfolio assessment. *Graded on a Pass/No Credit basis.*

## Sports Analytics (SPOA)

**SPOA 1110. Sports Analytics. (3)** The principles of data science meet sports analytics. Explores the analytical thinking behind the data revolution in sports and how it greatly impacts a sports franchise, a TV broadcast, when a player is up for free agency, and many more topics.

**SPOA 1120. Factors of Human Performance. (3)** Prerequisite(s): Sports Analytics major. Explores all aspects of human athlete performance, ranging from nutrition and physiology to psychological considerations for the athlete.

**SPOA 2110. Sport Business Analytics. (3)** Prerequisite(s): Sophomore, Junior, or Senior standing, enrolled in Sports Analytics Certificate. Sport business analytics converts raw data into meaningful and actionable information that enables sport business professionals and companies to make strategic business decisions. This course analyzes the sport business world and delves into some of the most influential sport business decisions (past and recent) in history.

**SPOA 2120. Applied Kinesiology for Human Performance. (3)** Prerequisite(s): SPOA 1120; Sports Analytics major. Study of foundational principles of kinesiology and human musculoskeletal anatomy as it relates to human sports performance.

**SPOA 2130. Introduction to Baseball Analytics. (3)** Prerequisite(s): STAT 1220 or STAT 1221 or STAT 1222. Introduction to sabermetrics and the history of baseball analytics. It then explains, compares, and contrasts selected metrics and statistics of the sport. This information will be applied to a final project concerning objective knowledge of baseball performance.

**SPOA 3110. Physiology of Human Performance. (3)** Prerequisite(s): SPOA 2120; Sports Analytics major. Explores the physiological processes necessary for human sports performance.

**SPOA 3300. Sports Analytics Internship Preparation. (1)** Prerequisite(s): SPOA major or certificate, junior class standing or

higher. Emphasis on consistent, ethical data collection and communication in a sports setting. Designed to promote professionalism and prepare students for the Sports Analytics internship.

**SPOA 3400. Sports Analytics Practicum. (1 to 3)** Prerequisite(s): SPOA 3300; Junior or senior standing. An experiential learning course which involves direct involvement on one or more sports analytics projects with a community or industry partner. *May be repeated for credit up to 6 credit hours.*

**SPOA 3800. Independent Study in Sports Analytics. (1 to 3)** Prerequisite(s): SPOA major or seeking SPOA certificate and permission of the instructor. Supervised investigation of a problem or subject in the field of Sports Analytics. To be arranged with the instructor, generally during the preceding semester. *May be repeated for credit with change of topic.*

**SPOA 4001. Advanced Topics in American Football Analytics. (3)** Prerequisite(s): DTSC 3601, DTSC 3602 with a grade of C or higher; SPOA major or certificate. Pre- or Corequisite(s): STAT 2122 or STAT 2223. Exploration of advanced statistical and computational methods applied to American football data. Students will move beyond traditional statistics to analyze game dynamics, evaluate player and coaching performance using modern metrics, and engage with complex spatial tracking data. The focus is on practical implementation using real-world NFL data.

**SPOA 4110. Analytics of Sport through Human Performance Technology. (3)** Prerequisite(s): SPOA 3110. Sports Analytics major. Explores the variety of wearables and performance measurement technology to measure, manage, and predict individual and team performance in sports.

**SPOA 4120. Modeling of Human Performance. (3)** Prerequisite(s): SPOA 2120, ITCS 3160; Sports Analytics major. Capstone experience defining and solving a real-world problem using human performance data.

**SPOA 4210. Advanced Baseball Analytics. (3)** Prerequisite(s): ITCS 3160. Cross-listed Course(s): ECGR 3090. Theory and fundamentals of baseball analytics using data science to gain objective knowledge on baseball performance.

# Statistics (STAT)

**STAT 1220. Elements of Statistics I (BUSN). (3)** Prerequisite(s): MATH Placement Level 2 or MATH 1100 or MATH 1101 or MATH 1103 or higher. Non-calculus based introduction to data summarization, discrete and continuous random variables (e.g., binomial, normal), sampling, central limit theorem, estimation, testing hypotheses, and linear regression. Applications of theory will be drawn from areas related to business. May not be taken for credit if credit has been received for STAT 1221 or STAT 1222.

**STAT 1220L. The Academic Success Experience. (1)** Co-requisite(s): STAT 1220 and Permission of the course instructor or department. This corequisite companion course is designed for students enrolled in a foundational gateway course. It provides targeted academic support, a smaller peer learning community, and mentorship to help students strengthen their understanding of course content and develop skills for long-term academic success.

**STAT 1221. Elements of Statistics I. (3)** Prerequisite(s): MATH Placement Level 2 or MATH 1100 or MATH 1101 or MATH 1103 or higher. Same topics as STAT 1220 with special emphasis on applications to the life sciences. Students who have already received credit for STAT 1220 or STAT 1222 will not receive credit for taking STAT 1221.

**STAT 1222. Introduction to Statistics. (3)** A non-calculus based course in statistics with special emphasis on applications to the social and behavioral sciences. Topics include: data summarization, discrete and continuous random variables (e.g. binomial, normal), sampling, central limit theorem, estimation, testing hypotheses. May not be taken for credit if credit has been received for STAT 1220 or STAT 1221.

**STAT 1322. Introduction to Statistics II. (3)** Prerequisite(s): STAT 1222 with grade of C or above. A non-calculus based course on statistics. Topics include: confidence intervals, hypothesis testing, and linear regression. Special emphasis on applications to the social and behavioral sciences. Active learning techniques, group work, and projects.

**STAT 2122. Introduction to Probability and Statistics. (3)** Prerequisite(s): MATH 1242 or MATH 2120, or permission of department. A study of probability models, discrete and continuous random variables, inference about Bernoulli probability, inference about population mean, inference about population variance, the maximum likelihood principle, the minimax principle, Bayes procedures, and linear models. May not be taken for credit and for a grade if credit has been received for STAT 3128.

**STAT 2223. Elements of Statistics II. (3)** Prerequisite(s): STAT 1220, STAT 1221, STAT 1222, or STAT 2122, or permission of department. Topics include: contingency analysis, design of experiments, more on simple linear regression, and multiple regression. Computers are used to solve some of the problems.

**STAT 3110. Applied Regression. (3)** Prerequisite(s): STAT 1220, STAT 1221, STAT 1222, or STAT 2122, or MATH 3122 or STAT 3122; and MATH 1242 or MATH 2120; or permission of department. Ordinary regression models, logistic regression models, Poisson regression models.

**STAT 3122. Probability and Statistics I. (3)** Prerequisite(s): MATH 2241 with grade of C or above. Cross-listed Course(s): MATH 3122. Sample spaces, random variables, moment generating functions, some standard distributions, multivariate distributions, laws of large numbers, limit theorems. *Credit may not be given for STAT 3122 when credit has been given for MATH 3122 or STAT 3128.*

**STAT 3123. Probability and Statistics II. (3)** Cross-listed Course(s): MATH 3123. Prerequisite(s): MATH 3122 or STAT 3122. An introduction to statistical inference. Topics include: point estimation (method of moments, method of maximum likelihood, unbiased estimators, efficiency, consistency); confidence intervals and hypothesis tests for unknown parameters, including proportions, means, variances, and differences between means; tests of significance; the power function; goodness-of-fit.

**STAT 3126. Applied Statistical Methods. (3)** Prerequisite(s): MATH 3123 or permission of department. Regression analysis, time series analysis, and forecasting. Survival models and their estimation.

**STAT 3128. Probability and Statistics for Engineers. (3)** Prerequisite(s): MATH 2241. An introduction to: probability theory; discrete and continuous random variables and their probability distributions; joint probability distributions; functions of random variables and their probability distributions; descriptive statistics; point and interval estimation; one and two sample hypothesis testing; quality control; one and two factor ANOVA; and regression.

**STAT 3140. Design of Experiments. (3)** Prerequisite(s): STAT 2223, or STAT 3110; Junior or Senior standing, or permission of department. Randomization and blocking with paired comparisons, significance tests and confidence intervals, experiments to compare $k$ treatment means, randomized blocks and two-way factorial designs, designs with more than one blocking variable, empirical modeling, factorial designs at two levels.

**STAT 3150. Time Series Analysis. (3)** Prerequisite(s): STAT 2223 or STAT 3110; Junior or Senior standing, or permission of department. Stationary time series models, ARMA processes, modeling and forecasting with ARMA processes, ARIMA models for nonstationary time series models, spectral densities.

**STAT 3160. Applied Multivariate Analysis. (3)** Prerequisite(s): STAT 2223 or STAT 3110; Junior or senior standing, or permission of department. Introduction to the fundamental ideas in multivariate analysis using case studies. Descriptive, exploratory, and graphical techniques; introduction to cluster analysis, principal components, factor analysis, discriminant analysis, Hotelling $T^2$ and other methods.

**STAT 3180. Predictive Analytics. (3)** Prerequisite(s): MATH 1242, and STAT 2122 or higher. Cross-listed Course(s): MATH 3180. Uses predictive modeling skills for pricing and risk classification algorithms in the R programming language. Students learn how to do exploratory data analysis using the data visualization tools in Base R and the GGPlot graphical l package. Generalized Linear Modeling (GLM) techniques based on Gaussian, Binomial, Poisson, and Gamma families of distributions are applied. Data analysis and model validation techniques are explored to assess modeling data quality and statistical model fit.

**STAT 4115. Statistical Machine Learning. (3)** Prerequisite(s): MATH 2164 and STAT 3110 and (STAT 3122 or STAT 3128). Introduces statistical fundamentals of machine learning methods with a focus on theory and applications. Topics include regressions, classifications, clustering, principal component analysis, factor analysis, independent component analysis, graphical models, and support vector machines. Emphasis is placed on both theoretical understanding and practical implementation, with hands-on experience in R.

**STAT 4116. Statistical Computing. (3)** Prerequisite(s): STAT 3123 or MATH 3123. Introduction to a variety of computational techniques using various statistics software packages (S-Plus/R or SAS) and symbolic manipulation software packages. Topics include: random number generation, density estimation, and re-sampling techniques (bootstrap, jackknife) and Gibbs sample.

**STAT 4123. Applied Statistics I. (3)** Prerequisite(s): MATH 2164 with grade of C or above and Junior or Senior standing, or permission of department. Review of stochastic variables and probability distributions, methods of estimating a parameter, hypothesis testing, confidence intervals, contingency tables. Linear and multiple regression, time series analysis.

**STAT 4124. Applied Statistics II. (3)** Prerequisite(s): STAT 4123 or permission of department. Single factor analysis of variance. Multi-factor analysis of variance. Randomized complete-block designs, nested or hierarchical designs, Latin squares, factorial experiments. Design of experiments.

**STAT 4227. Loss Models and Applications. (3)** Cross-listed Course(s): STAT 5227. Prerequisite(s): MATH 3122 or STAT 3122; or approval of department. Review of the key features of insurance and reinsurance; severity, frequency, and aggregate loss models; parametric estimation; model selection.

# Teaching English As A Second Language (TESL)

**TESL 4103. Methods in Teaching English as a Second Language. (3)** Prerequisite(s): MDSK 3151 and TESL 4204. For future teachers of English as a Second Language who wish to master a variety of approaches, methods and techniques of teaching ESL and other competencies prescribed by the state of North Carolina. Clinical hours required.

**TESL 4104. Authentic Assessment. (3)** An exploration of the variety of assessments and evaluations used specifically for English Language Learners (ELLs) in the K-12 public schools. For current and future teachers to develop multiple criteria assessment models and to master other competencies related to the assessment of ELLs within the mainstream and ESL classroom, as prescribed by the State of North Carolina. Clinical hours required.

**TESL 4204. Learning, Schools, and Community. (3)** Cross-listed Course(s): TESL 5204. An introduction to supportive teaching and learning practices that operate as reflective spaces within the school context and the communities they serve. Topics include: current school and community demographics, contemporary learning trends, connections to state and national policies, academic language and literacy development patterns, and community-oriented differentiated instruction. Clinical hours required.

**TESL 4205. Second Language Acquisition and Linguistics in K-12 Schools. (3)** Cross-Listed Course(s): TESL 5205. An introduction to the English language as a system, with a particular focus on teaching English as a second language in K-12 public school settings. Topics include: first and second language acquisition processes; English phonology, morphology, and syntax; implications for teaching English language learners the four language skills - listening, speaking, reading, and writing; and implications for teaching in the content areas.

**TESL 4469. Advanced Seminar/Practicum in Teaching English as a Second Language. (3)** Prerequisite(s): Permission from the department for admission to student teaching; must be taken prior to or in conjunction with student teaching in the major. A planned sequence of experiences within a high-needs ESL school setting under the supervision of a TESL faculty member. Concepts, methods, and practices used by

effective teachers of English Language Learners (ELLs) in their daily classroom routines, including systematic observation skills, interpretation of observation data, and application of research-based findings. Extensive observations and implementation of modified lesson plans for ELLs required. Seminar topics vary.

**TESL 4600. Literacy Development for Second Language Learners. (3)** An introduction to the challenges associated with first language literacy, second language literacy, and second language development. Examinations of the interaction between language, literacy, and culture and their implications for additive models of literacy instruction in a non-native and/or heritage language in diverse K-12 settings. Clinical hours required.

# Theatre (THEA)

**THEA 1140. The Theatre Experience. (3)** Explores the theatre experience through basic concepts of playmaking, from the script's meanings to director's, designers', and actors' choices. Considers how certain plays, performed in specific ways, might affect various people in the audience today. Plays from different historical periods are read, discussed, and seen onstage in the Department of Theatre season.

**THEA 1215. Theatre Tech I - Costume. (3)** Introduction to costume shop equipment, sewing techniques, and construction of costume accessories. Through the application of analytical and problem-solving skills, students analyze possible technical solutions to production-related tasks and perform basic practices in costume crafts (e.g., sewing, pattern drafting, fabric manipulation).

**THEA 1225. Theatre Tech I - Scenic. (3)** Through hands-on experience, introduces students to the common methods and materials used in the construction and installation of theatrical scenery. Attention is paid to safety measures and protocols in a theatrical scene shop and varied theatre spaces. Deepens students' understanding of practical problem-solving and active practice.

**THEA 1235. Theatre Tech I - Lighting. (3)** Introduction to the fundamentals of stage lighting technology, including instrument handling, focusing, basic electrical theory, practitioner roles and current advancements. Exploration through hands-on training of techniques associated with the installation and manipulation of a wide range of lighting technology. Students are exposed to basic and some advanced lighting console programming techniques, as well as being introduced to the concepts of DMX networking and control of automated lighting fixtures.

**THEA 1245. Theatre Tech I – Sound. (3)** Introduction to the fundamentals of theatrical sound technology, including audio theory, equipment, control, distribution, practitioner roles and current advancements. Hands-on training of techniques associated with the installation and manipulation of audio equipment used in a theatrical environment. Students exercise analytical and problem-solving skills, as well as active practice.

**THEA 1265. Introduction to Stage Performance. (3)** Introduction to the basic principles and techniques of increasing vocal and physical awareness for the stage. In the vocal awareness segment, the concept of "freeing your voice" is explored. In the physical awareness section, the focus is primarily on neutral presence through elements of the Alexander technique, and through the basic principles of physical theatre from the point of view of the Lecoq training. The main goal is to "unlearn" vocal and physical bad habits and re-learn what it means to simply stand up in front of an audience and BE. Students learn and apply a set of analytical and problem-solving skills, oral communication proficiencies, and practice and collaboration.

**THEA 1270. Acting I. (3)** Prerequisite(s): THEA 1265. An introductory, intensive, hands-on experience in the craft of ensemble acting for both theatre majors or interested non-majors. Students learn to analyze a scene, engage voice, body and intellect in performance work, and execute self and peer evaluation. Course material is based on acting techniques derived from the work of Konstantin Stanislavski and using *A Practical Handbook for the Actor* by Melissa Bruder. Four contact hours.

**THEA 1300. Play Analysis. (3)** Prerequisite(s): Theatre major or minor, or permission of instructor. An introduction to the various methodologies of analyzing play scripts as preparation for performance. Students articulate their critical positions both orally and in writing while comparing and contrasting diverse dramatic texts, as well as recognizing distinctive theatrical genres. There is also a focus on developing writing skills appropriate to the art form.

**THEA 1360. Applied Theatre in Communities and Schools. (3)** Students preparing to work in a wide range of community and/or school settings explore applied theatre, a broad term for drama/theatre serving people and purposes outside traditional theatre spaces. Introduces applied theatre strategies, histories and techniques in action. Rooted in play, improvisation and story, students plan, implement, and assess basic art and learning experiences with each other and with diverse young people in a community/school setting; they sharpen collaborative skills and critical lenses to create culturally relevant theatre approaches that prioritize diversity, inclusivity, and the assets of the participants and their communities.

**THEA 1502. Global Arts/Humanities: Theatre in Global Contexts. (3)** All Global Theme courses explore the central, unifying question of what it means to be a citizen of the world. Through the study of one or more different peoples, societies or cultures across the globe, students will be able to better understand themselves as part of a complex, interconnected world. This interdisciplinary course considers how various forms reflect traditions from around the world. It explores theatre's evolution within a dynamic sociopolitical global framework through lecture, discussion, film/video and performance. *May not be taken for credit and for a grade if credit has been received for LBST 1104.*

**THEA 1512. Local Arts/Humanities: Theatre in the United States. (3)** All Local Theme courses explore the central, unifying question of what it means to be a member of the "local" community in which we live. Through the study of the experiences of different peoples, cultures, and communities in our city, our region, or our nation, students will be able to better understand themselves in the context of the complex and diverse society in which we live. This interdisciplinary course considers the continuing evolution of theatre in the United States through lenses such as indigenous, social justice, immigration/migration, and critical cultural studies utilizing lecture, discussion, film/video, and performance.

**THEA 1600. Majors and Minors Seminar. (0)** Course consists of regular monthly meetings to disseminate and discuss department information and issues. Second monthly meeting consists of workshops on various aspects of the profession. *May be repeated for credit. Graded on a Pass/No Credit basis*.

**THEA 2210. Costume Design I. (3)** An introduction to costume design theory and techniques for theatre, dance, and opera.

**THEA 2215. Stage Makeup. (3)** Theories and techniques of applying and designing stage makeup.

**THEA 2221. Stage Management. (3)** Introduces stage management through theory and practice as it relates to live performance and the arts. Students learn to become effective team leaders and collaborators who know how to manage time, people, and multiple resources leading toward the common goal of a successful theatrical production. Provides an understanding of the skills required to compete for jobs in the performing arts industry.

**THEA 2230. Scenic Design I. (3)** An introduction to scenic design theory and techniques for theatre, dance, and opera.

**THEA 2240. Sound Design I. (3)** Introduction to the methods, tools, processes, and theory of sound design for theatrical projects. Students learn about sound creation, support, technological innovations, and tools that are standard in the Theatre industry. Involves critical, research, and problem-solving skills.

**THEA 2250. Lighting Design I. (3)** An introduction to lighting design theory and techniques for theatre, dance, and opera.

**THEA 2260. Voice, Text, and the Actor. (3)** Prerequisite(s): THEA 2270. Delves into the study of the principles and techniques of vocal production, voice work and dialects for the stage. Using as foundation Kristin Linklater's methods for "freeing your voice," students are immersed in various vocal approaches in order to maximize their full vocal potential. In the second half of the course, students build a foundation for utilizing the International Phonetic Alphabet in both understanding their own voice, stage standard speech, and introductory dialect work. At the end of the course, students demonstrate the ability to employ clear and expressive speech habits in performances practices, cross-disciplinary studies, and everyday life. Students learn and apply a set of analytical and problem-solving skills, and oral communication proficiencies.

**THEA 2270. Acting II. (3)** Prerequisite(s): THEA 1270. Explores acting techniques based on the work of Constantine Stanislavski and using the Practical Handbook. Students take a more in-depth look at scenes, monologues, and acting techniques which allow them to develop their characters. In addition, students can expect to become more self-aware, which can be infinitely valuable, no matter what career they wish to pursue.

**THEA 2280. Acting in Physical Theatre. (3)** Prerequisite(s): THEA 1265 with grade of C or above. The study of foundational principles and techniques for increasing physical presence for the stage. Students are submerged in a condensed version of "year one" of Jacques Lecoq's pedagogy of movement-based creative theatre. Advancing from the premise that a gesture could say more than 1000 words, students are moved from silence to voice, from the elemental to the animal, from neutral to character. Students learn and apply a set of analytical and problem-solving skills, oral communication proficiencies, and practice and collaboration.

**THEA 2310. Theatre History I. (3)** Prerequisite(s): Sophomore, Junior, or Senior standing. An overview of the history of theatre practices, technologies, and literatures from the ancient world through the 17th century.

**THEA 2311. Theatre History II. (3)** Pre- or Corequisite(s): THEA 1300. An overview of the history of theatre practices, technologies, and literatures from the 17th century to the present.

**THEA 2320. Playwriting I. (3)** Prerequisite(s): THEA 1300. An introduction to the playwriting process for students interested in dramatic storytelling and the process of new play development. Focuses on: 1) close reading and analysis of representative plays in order to understand dramatic structure, characterization, rhythm, imagery, etc.; 2) creative experimentation through a series of writing exercises; and 3) participation in the process of "workshopping" class products, including offering and receiving constructive criticism.

**THEA 2330. Shakespeare in History. (3)** Prerequisite(s): THEA 1300. The plays of William Shakespeare are examined, as they emerged from the cultural context which shaped his world and the forms of theatre available to his audience. Involves textual analysis and other types of critical scrutiny across various forms of communication-oral, written, and theatrically embodied-both as individuals and as a group working collaboratively, as they explore the political, social, religious, philosophical, and aesthetic currents which stamped the plays. In addition to examining Shakespeare's work, students read representative examples by his contemporaries so as to further contextualize the material, and study the particular technologies of the Renaissance theatre so as to better understand how the plays may have been originally staged. The thrust of the course is that in uncovering what Shakespeare was, students start to construct notions of what he may yet become. Involves the writing of several short essays.

**THEA 2400. Technical Theatre Practice. (1)** Provides practical experience in a realized theatrical production within a defined area of practice on a departmental, or department-supported, theatrical production. Upon completion, students should have a solid understanding of the basic terminologies, processes, safety practices, materials, techniques and goals of the specified area. These areas include, but are not limited to, scenic, costume, lighting and sound production, stage management, and other areas of specificity, as necessary. *May be repeated for credit.*

**THEA 2402. Performance Practicum: Theatre. (1)** Prerequisite(s): Audition. Practical application of performance techniques within a production setting, including auditions, rehearsals, and performances. *May be repeated for credit.*

**THEA 2405. Run Crew Practicum. (1)** Provides practical theatre crew experience in a realized theatrical production within a defined area of practice on a departmental, or department- supported, theatrical production. Upon completion, students should have a solid understanding of the basic terminologies, processes, safety practices,

materials, techniques and goals of the specified crew area. *May be repeated for credit up to 6 credit hours.*

**THEA 2460. Practicum in Creative Drama: K-8. (3)** Prerequisite(s): THEA 1160 or permission of instructor. Study and application of advanced theories, concepts, competencies, and processes unique to primary and middle school settings, with particular attention to the various subject areas. Centered on in-school teaching experience and clinical practice.

**THEA 2470. Theatre Teaching Practicum. (1)** Prerequisite(s): THEA 1360. Theatre Education licensure students enter the profession as active observers and assistants. Assigned to one school clinical placement and given the option to explore several non-school arts-based experiences targeting youth (e.g., theatres, organizations, events), future theatre teachers observe, analyze, and document while actively participating, assisting, and questioning artistic and pedagogical practices.

**THEA 2600. Majors Seminar. (1)** Prerequisite(s): Sophomore standing. Students investigate, identify, analyze, and cultivate immediate and life-long career options through directed projects, guest lectures, site visits to the Career Center, mock interviews, and other career preparatory activities and assignments. Students develop effective communication skills (both written and oral) as part of their work on the course projects. Two contact hours. *Graded on a Pass/No Credit basis.*

**THEA 3132. 17th to Early 20th Century Theatre. (3)** Prerequisite(s): Junior or Senior standing. The history and drama of European and American theatre, from the Restoration period to early 20th century realism and various antirealist movements.

**THEA 3202. Audition Techniques. (3)** Prerequisite(s): THEA 2201. Provides intermediate to advanced student actors with an understanding of the business of acting and the skills needed for one to be considered for employment. Students are taken through a variety of mock auditions including ones for theatre, film, and commercial work. Areas of focus include the preparation of headshots, resumes, websites, portfolios, and cover letters. Four contact hours.

**THEA 3207. Acting for the Musical Theatre. (3)** Prerequisite(s): THEA 2201; admission into Certificate in Music Theatre; and permission of instructor. Students develop an effective acting technique for the musical stage. Through in-class exercises and the study of music and scenes of major shows in the repertoire, students develop performance techniques particular to the musical theatre genre, and an appreciation of its particular styles. Students also develop and perform scenes/songs from several musicals of their choice.

**THEA 3211. Visual Period Styles for Theatre. (3)** Introduction to art, architecture, interior design, and clothing history, including social and economic factors that influenced development. Through research and critical thinking, students demonstrate knowledge of historical and contemporary art movements, architecture, and clothing for application in theatrical design.

**THEA 3214. Costume Crafts. (3)** Prerequisite(s): THEA 1215, THEA 1225, or permission of instructor. Introduction to costume craft-making uses a materials-based approach. Through the application of analytical and problem-solving skills, students analyze possible technical solutions to production-related tasks and perform advanced practices in costume crafts (e.g., millinery, leather work, thermoplastics, dyeing, distressing, and e-textiles).

**THEA 3215. Theatre Tech II - Costume. (3)** Prerequisite(s): THEA 1215 or permission of instructor. In-depth exploration of pattern development, draping, fabric modification, and construction of accessories. Through the application of analytical and problem-solving skills, students analyze possible technical solutions to production-related tasks and perform advanced practices in costume crafts (e.g., sewing, pattern drafting, fabric manipulation).

**THEA 3222. Theatre Drafting. (3)** Introduction to the fundamentals of theatrical hand drafting and computer-aided drafting. While this course specifically explores projects for designers and technicians in theatre, anyone looking to expand their basic skills in drafting will find the class useful. Learning outcomes include problem-solving, practice, and collaboration.

**THEA 3225. Theatre Tech II – Scenic. (3)** An introduction to advanced methods, tools, and materials used in the creation of theatrical scenery. Safety methods and protocols are explored, and students focus on critical thinking, analytical, and problem-solving skills as they relate to scenery production.

**THEA 3235. Theatre Tech II – Lighting. (3)** Prerequisite(s): THEA 1235. Advanced topics in stage lighting technology, including paperwork management within Vectorworks and Lightwright, production archiving methods, advanced large scale show prep package work, and USITT standards and guidelines. Exploration through hands-on training of techniques associated with the installation and manipulation of a wide range of lighting technology. Students are exposed to advanced lighting console programming techniques, as well as strategies and procedures for DMX networking and control of automated lighting fixtures.

**THEA 3246. Theatre Tech II - Sound. (3)** Prerequisite(s): THEA 1245. A detailed exploration of advanced topics in theatrical sound technology, including audio transport networks and protocols, control networks, advanced control, routing, and distribution, digital console programming, and system processing. Students utilize critical, analytical, and problem-solving skills.

**THEA 3256. Drawing and Rendering for the Theatre. (3)** Foundational drawing and rendering concepts developed for students of the theatre. Through practice and disciplined application, students master drawing and rendering skills in order to effectively communicate aesthetic choices for application in theatre design.

**THEA 3290. Acting on Camera. (3)** Prerequisite(s): THEA 2270. A discussion of foundational concepts regarding screen acting technique and strategically applying this technique to create on-camera performances. Students work in various genres with the intentions of mastering the foundations of objective-driven, realistic acting. Students also analyze a film, critiquing the acting using the language of craft discussed in the class. Four contact hours.

**THEA 3293. Introduction to African American Theatre. (3)** Prerequisite(s): THEA 1265 and THEA 1270. A discussion-centered course designed to give students of all backgrounds an introductory understanding to the world of modern African American theatre. Covers elements of style, design, criticism, and history as they pertain to the

genre through reading, discussion, and performance. Students explore, discuss, and analyze issues of politics, race, and gender in the American theatre. Emphasis is placed on major playwrights, theatre companies, and performers within their historical and social contexts.

**THEA 3300. Directing I. (3)** Prerequisite(s): THEA 1270 or permission of instructor. An introductory course in the fundamentals of directing that focuses on defining the role of the director while discovering a variety of directorial strategies. Processes explored include text analysis, collaboration and leadership, director/actor communication, directing theory, storytelling (narrative), point of view, and stage composition. Students practice applying the concepts and skills they have learned in the class by directing short scenes, acting in short scenes, and participating in an analysis of student work.

**THEA 3310. Dramaturgy. (3)** Prerequisite(s): THEA 1300. Exploration of plays in the Department of Theatre's current production season through dramaturgical research, play analysis, and essay writing. The writing of performance reviews and program notes is also practiced. Students conduct historical research on the plays, playwrights, and prior productions. Students also learn to apply current theories and cultural concerns to specific points in each play, developing new meaning for staging the plays today.

**THEA 3330. Ancient, Medieval, and Asian Theatre. (3)** Prerequisite(s): Junior or Senior standing. The history and drama of ancient Greek, ancient Roman, medieval European, and traditional Asian forms of theatre.

**THEA 3340. Renaissance European Theatre. (3)** Prerequisite(s): Junior or Senior standing. The history and drama of Renaissance European theatre, including Shakespeare.

**THEA 3355. Contemporary Theatre. (3)** Prerequisite(s): Junior or Senior standing. The history and drama of 20th and 21st century theatre in America, Europe, Africa, and elsewhere.

**THEA 3400. Advanced Theatre Practice. (1 to 3)** Provides practical experience in a realized theatrical production within a defined area of practice on a departmental, or department-supported, theatrical production. Upon completion, students should have solid understanding of advanced terminologies, processes, safety practices, materials, techniques, and goals of the specified area in which they are concentrating. *May be repeated for credit up to 6 hours.*

**THEA 4001. Topics in Theatre. (1 to 6)** Special topic in theatre. *May be repeated for credit with change of topic.*

**THEA 4002. Topics in Applied Theatre. (1 to 6)** Special topics in applied theatre. *May be repeated for credit with change of topic.*

**THEA 4003. Topics in Design and Technical Theatre. (1 to 6)** Special topic in design and technical theatre. *May be repeated for credit with change of topic.*

**THEA 4004. Topics in Directing. (1 to 6)** Special topics in theatre directing. *May be repeated for credit with change of topic.*

**THEA 4005. Topics in Theatre Performance. (1 to 6)** Special topics in theatre or media performance. *May be repeated for credit with change of topic.*

**THEA 4006. Topics in Theatre Education. (1 to 6)** Special topics in theatre education. *May be repeated for credit with change of topic.*

**THEA 4007. Topics in Theatre History. (1 to 6)** Special topics in theatre history. *May be repeated for credit with change of topic.*

**THEA 4008. Topics in Dramatic Literature. (1 to 6)** Special topics in dramatic literature. *May be repeated for credit with change of topic.*

**THEA 4204. Acting III: Experiential and Alternative. (3)** Prerequisite(s): THEA 3201 with a grade of A. Instructs the advanced acting student on the use of an organic based acting technique in the creation of roles in modern *experimental* and *alternative* plays. Focusing upon Brecht, Artaud, and other contemporary devising stylists, the student is instructed on research, script analysis, and performance techniques. Four contact hours.

**THEA 4205. Stage Dialects. (3)** Prerequisite(s): THEA 3201 or THEA 3205 with a grade of B or above. Provides the student with a process in dialect acquisition. Upon completion of the course, the student will have a basic understanding of the International Phonetic Alphabet (IPA), demonstrate knowledge of specific vowel and consonant changes for dialects covered, and be able to demonstrate specific dialects through performance. Four contact hours.

**THEA 4210. Costume Design II. (3)** Prerequisite(s): THEA 2210. A continuation in costume design theory and techniques for theatre, dance, film, and opera. The emphasis is on improving visual communication skills by exploring the following topic areas: using analytical and problem-solving skills to interpret a text, supporting a text through design choices, and advanced drawing and costume rendering techniques using analog techniques and digital media.

**THEA 4225. Computer-Aided Design for Theatre. (3)** The study of the use of the computer-aided design (CAD), with special emphasis on how it relates to design for the stage. The course begins at a rudimentary level of understanding of CAD, progresses to 2D, and then to 3D techniques using Vectorworks. Students develop an understanding of how CAD software can be used to understand, imagine, create, and share concepts and techniques for stage design.

**THEA 4230. Scenic Design II. (3)** Prerequisite(s): THEA 2230 or permission of instructor. Advanced scenic design theory and projects.

**THEA 4233. Scenic Painting. (3)** Prerequisite(s): THEA 1240 or permission of instructor. An introduction to basic scenic painting techniques, paint media, and materials.

**THEA 4234. Stage Properties. (3)** Prerequisite(s): THEA 2230. An introduction to the work of a theatre props department. Focuses on the functions and role of the Properties Manager in the production process. Also addresses several common properties fabrication techniques through hands-on projects.

**THEA 4237. Puppetry. (3)** Focuses on learning of the basic varieties of puppetry for the stage, frameworks for socio-historical reasons for

puppetry as a design and performative art form, and gives students an opportunity to create their own short puppet pieces in a studio-style course set-up.

**THEA 4250. Lighting Design II. (3)** Prerequisite(s): THEA 2250 or permission of instructor. Advanced lighting design theory and projects.

**THEA 4281. Commedia dell'Arte. (3)** Prerequisite(s): See advisor. Expands on the principles and techniques of what is widely known as the Physical Approach to Theatre, with a primary focus on the Commedia dell'Arte dramatic realm. From mask work to comedic improvisation, to slapstick/comic stage combat, to the creation of new comic work, students are immersed in the essence and power of this Renaissance period theatrical heritage. Students learn and apply a set of analytical and problem-solving skills, research and critical thinking, oral communication proficiencies, and practice and collaboration.

**THEA 4282. Summer Contemporary Circus Intensive. (3)** Prerequisite(s): See advisor. Expands on the principles and techniques of what is widely known as the contemporary circus realm or the Nouveau Cirque, with a primary focus on the Aerial Circus Disciplines. In order to become a performer with a mastery in movement and the physical gesture, one must diversify the knowledge of such field, and aim to amass and understand a variety of skills. Such knowledge undoubtedly makes the individual a more marketable performer, a true cross-trained artist for the performing arts of the 21st century. Students learn and apply a set of analytical and problem-solving skills, and practice and collaboration. *May be repeated for credit to continue to build skill knowledge in reference to the production/academic schedule.*

**THEA 4300. Directing II. (3)** Prerequisite(s): THEA 3300. Continuation of THEA 3300, with emphasis on advanced analysis, coaching, communication with designers, and complex staging problems.

**THEA 4310. Theatrical Shakespeare. (3)** Prerequisite(s): THEA 1270 and THEA 1300. An examination of a play or plays by Shakespeare as expressly theatrical entities, the raw material of vivid and compelling contemporary staging. Students learn the particular skill sets actors need in preparing to perform Shakespeare, beginning by studying iambic pentameter, rhyme, antithesis, image clusters, and other features of the Shakespearean text, combining analysis with practical techniques for incorporation and delivery. Practices demanded by the plays are studied, which grow out of their original performance conditions but focus on playing in the present, developing a sense of character, spatial relationships, and visualization. Also explored are macro directorial concerns about viable readings and how to present them in the theatre. Students combine rigorous critical thinking with active rehearsal room practices in order to develop both a firm understanding of what Shakespeare on stage is and a range of abilities that facilitate effective actor choices.

**THEA 4330. Performance Theory. (3)** Prerequisite(s): Theatre major or minor; and Junior or Senior standing; or permission of instructor. Application of different perspectives to drama on the page, stage, and screen using various performance theories and approaches: semiotics, deconstruction, psychoanalysis, feminism, post-colonialism, and performance studies.

**THEA 4340. Theatre Collaboration. (3) (SL)** Prerequisite(s): Permission of instructor. The integration and application of principles of theatre collaboration. Students participate in the collaborative creation of a play production while examining the ideas/principles of a controversial social justice issue. Students devise an original dramatic work, practice collaborative skills, demonstrate understanding of the diverse perspectives around current social or cultural issues within the community and on campus; interpret text, and create and use theatrical space evocatively.

**THEA 4360. Theatre for Young Audiences. (3)** Students with an interest in theatre, young people, and/or literature explore plays and performances for young audiences. The course considers young audiences through experiences with reading, seeing, and creating plays for young people with a particular emphasis on youth audience response. Students identify recurrent patterns shaping theatre for young audiences locally, nationally, and globally, then move to contribute to the field through individually designed projects.

**THEA 4370. Theatre/Drama Curriculum and Methods K-12. (3)** Prerequisite(s): THEA 1360, THEA 2470, and MDSK 2100, acceptance into Teacher Education Program, and Junior or Senior standing; or permission of instructor. Students synthesize and apply their content and teaching experiences and knowledge to design, implement, and assess theatre lessons, programs and curricula. Future theatre educators develop pedagogically sound, artistically challenging, and strategically inclusive approaches, as well as consider questions of systemic challenges and potential reform. This methods course includes strategic preparation and significant clinical/practicum experiences for students transitioning to the student teaching internship.

**THEA 4375. Devising and Directing in Community. (3)** Students engage in assessing the assets and needs of a particular partner community organization or initiative, collaboratively developing theatre programming or performance work with the organization or initiative, then assessing impact and imagining next potential steps or connections.

**THEA 4400. Internship in Theatre. (3-6)** Prerequisite(s): GPA of a least 2.5, Junior or Senior standing, and permission of department chair. Research and/or in-service training for theatre majors and minors in cooperating organizations. Specific content is based upon a contract between the students, department, and professional organization. *Graded on a Pass/No Credit basis.*

**THEA 4467. Student Teaching/Seminar: K-12 Fine and Performing Arts: Theatre. (12)** Prerequisite(s): approved application for student teaching; Senior standing; completion of professional education requirements; and grades of C or above in all courses required for licensure. Corequisite(s): enrollment only in student teaching. A planned sequence of experiences in the student's area of specialization conducted in an approved school setting under the supervision and coordination of a University supervisor and a cooperating teacher in which the student demonstrates the competencies identified for their specific teaching field in an appropriate grade level setting. Participating students pay a course registration fee for edTPA portfolio assessment. *Graded on a Pass/No Credit basis.*

**THEA 4600. Senior Project. (1)** Prerequisite(s): Senior standing. Synthesis, integration, and application of theoretical and experiential study in theatre through individual/group project. Students, working

with a mentor, prepare a paper, performance project or portfolio presentation in their area of emphasis. One contact hour.

**THEA 4601. Individual Project. (1 to 6)** Prerequisite(s): Permission of department chair. An individual project course for Theatre majors. *May be repeated for credit.*

**THEA 4610. Advanced Design, Technology, and Management. (2 to 3)** Prerequisite(s): Permission of instructor. Large-scale applications of design and production topics on realized productions. *May be repeated for credit.*

**THEA 4620. Senior Seminar. (3)** Prerequisite(s): Senior standing. Senior Seminar experience for graduating seniors. Students learn and apply a set of critical thinking, analytical, and practical skills required to theorize, plan, execute, and/or reflect upon a series of final projects. Students explore the theoretical and performance texts of the discipline, analyze and evaluate their personal learning acquisition throughout their studies in the major, review and further develop career-building tools and strategies, and share their knowledge and experiences with other majors as part of a peer-to-peer teaching and learning module.

**THEA 4640. Senior Capstone in Applied Theatre. (3)** Prerequisite(s): Senior standing. Corequisite(s): THEA 3400. Capstone experience for graduating seniors. Students learn and apply a set of critical thinking, analytical, and practical skills required to theorize, plan, execute, and/or reflect upon a final project in applied theatre. Participating actively in art as research, students gain experience in project management, theatre making, community connection, and arts-based research.

**THEA 4650. Senior Capstone in Design/Tech. (3)** Capstone experience for graduating seniors. Students learn and apply a set of critical thinking, analytical, and practical skills required to theorize, plan, execute, and/or reflect upon a final project in their chosen concentration area within Theatre Design and Technology.

**THEA 4800. Directed Independent Study. (1 to 3)** Prerequisite(s): Theatre or Theatre Education major; Junior or Senior standing, minimum 2.5 GPA; and permission of instructor and department. Allows students to pursue faculty-directed independent study topics (1) of special interest to the student, (2) within the area of the instructor's special competence, (3) not provided by other Department offerings. *May be repeated for credit.*

# Translating and Translation Studies (TRAN)

**TRAN 3601. Introduction to Translation and Interpreting Studies. (3)** Prerequisite(s): FREN 3201, FREN 3202; GERM 3201, GERM 3202; JAPN 3201; RUSS 3201; SPAN 3201, SPAN 3202, or SPAN 3203 with grade of C or above; or permission of department. History, theory, pragmatics, and procedures of the fields of translation and interpreting. Designed to develop the research skills, resources, and tools to become good translators and interpreters. Conducted in English.

**TRAN 4402. Practicum in Translating I - French. (3)** Cross-listed Course(s): TRAN 5402. Pre or Corequisite(s): TRAN 3601 and a FREN 3000-level course or equivalent with grades of C or above, or permission of department. Comparative stylistics, restructuring texts, editing, troubleshooting, and techniques of the translator in working with a variety of text types. Conducted in English and French.

**TRAN 4403. Practicum in Translating II - French. (3)** Cross-listed Course(s): TRAN 5403. Prerequisite(s): TRAN 4402 with grade of C or above, or permission of department. Critical analysis of different kinds of texts; translating for specific audiences; problems of terminology; development of working dictionaries in fields(s) of specialization. Conducted in English and French.

**TRAN 4404. Practicum in Translating III - French. (3)** Cross-listed Course(s): TRAN 5404. Pre- or Corequisite(s): TRAN 4403 with grade of C or above, or permission of department. Study of professional journals, technologies, protocol, and resources in the field (e.g., ATA, ALTA). Advanced issues of translation. Translation of a semester-long project in individual consultation. Conducted in English and French.

**TRAN 4412. Practicum in Translating I - German. (3)** Cross-listed Course(s): TRAN 5412. Pre- or Corequisite(s): GERM 2201, GERM 2202, GERM 3201, and GERM 3202; or permission of department. Comparative stylistics, restructuring texts, editing, troubleshooting, and techniques of the translator in working with a variety of text types. Conducted in English and German.

**TRAN 4413. Practicum in Translating II - German. (3)** Cross-listed Course(s): TRAN 5413. Pre- or Corequisite(s): GERM 2201, GERM 2202, GERM 3201, and GERM 3202; or permission of department. Critical analysis of different kinds of texts; translating for specific audiences; problems of terminology; development of working dictionaries in fields(s) of specialization. Conducted in English and German.

**TRAN 4414. Practicum in Translating III - German. (3)** Cross-listed Course(s): TRAN 5414. Prerequisite(s): GERM 2201, GERM 2202, GERM 3201, and GERM 3202; or permission of department. Translation of a semester-long project in individual consultation. Conducted in English and German.

**TRAN 4422. Practicum in Translating I - Japanese (3)** Cross-listed Course(s): TRAN 5422. Pre- or Corequisite(s): One Japanese language course at the 3000 level (JAPN 3201, JAPN 3202 or JAPN 3203), or equivalent with a grade of B or above, or permission of department. Comparative stylistics, restructuring texts, editing, troubleshooting, and techniques of the translator in working with a variety of text types. Conducted in English and Japanese.

**TRAN 4423. Practicum in Translating II - Japanese. (3)** Cross-listed Course(s): TRAN 5423. Prerequisite(s): One Japanese language course at the 3000 level (JAPN 3201, JAPN 3202 or JAPN 3203), or equivalent with a grade of B or above, or permission of department. Provides guided practical experience in translating from Japanese to American English, through work with one genre of source texts.

**TRAN 4424. Practicum in Translating III - Japanese. (3)** Cross-listed Course(s): TRAN 5424. Prerequisite(s One Japanese language course at the 3000 level (JAPN 3201, JAPN 3202 or JAPN 3203), or equivalent with a grade of B or above, or permission of department. Provides individualized practical experience in translating from Japanese to American English.

**TRAN 4432. Practicum in Translating I - Russian. (3)** Cross-listed Course(s): TRAN 5432. Pre- or Corequisite(s): TRAN 3601 and a RUSS 3000-level course or equivalent with a grade of B or above, or permission of department. Grammatical and lexical issues of translation; restructuring texts, editing, troubleshooting, and techniques of the translator in working with a variety of text types (documents, essays, fiction, poetry). Conducted in English and Russian.

**TRAN 4433. Practicum in Translating II - Russian. (3)** Cross-listed Course(s): TRAN 5433. Prerequisite(s): TRAN 4432 with a grade of B or above, or permission of department. Further work in restructuring texts, editing, troubleshooting. Pragmatic/cultural issues of translation in dealing with a variety of text types (documents, essays, fiction, poetry) as well as the specifics of film translating. Conducted in English and Russian.

**TRAN 4434. Practicum in Translating III - Russian. (3)** Cross-listed Course(s): TRAN 5434. Prerequisite(s): TRAN 4433 with a grade of B or above, or permission of department. Study of professional journals, technologies, protocol, and resources in the field (e.g., ATA, ALTA). Advanced issues of translation. Translation of a semester-long project in individual consultation with instructor. Conducted in English and Russian.

**TRAN 4442. Practicum in Translating I - Spanish. (3)** Pre- or Corequisite(s): TRAN 3601 and a SPAN 3000-level course or equivalent, with grade of C or above, or permission of department. May count as coursework for the Spanish major. Understanding audience, text typologies, register, and regionalisms. Continues with theory of translation. Conducted in English and Spanish.

**TRAN 4443. Practicum in Translating II - Spanish. (3)** Prerequisite(s): TRAN 3601 or TRAN 4442, and a SPAN 3000-level course or equivalent, each with grade of C or above, or permission of department. Emphasizes commercial, financial, legal, political, medical, and scientific translation. Continues with history and theory of translation. Conducted in English and Spanish. May be taken concurrently with TRAN 4444 and may also count as coursework for the Spanish major.

**TRAN 4444. Practicum in Translating III - Spanish. (3)** Prerequisite(s): TRAN 3601 or TRAN 4442, and a SPAN 3000-level course or equivalent, each with grade of C or above, or permission of department. Emphasizes literary, cultural, and consumer-level translation. Conducted in English and Spanish. May be taken concurrently with TRAN 4443 and may also count as coursework for the Spanish major.

**TRAN 4452. Practicum in Translation I – Italian. (3)** Provides practical experience in translating from Italian to American English through work with a variety of source texts. Students begin to work with longer source texts.

# University College (UCOL)

**UCOL 1000. College Transition for First-Year Students. (1 to 3)** Prerequisite(s): Freshman standing. Designed to assist with the intellectual and social transition from high school to college by increasing the involvement of students in the intellectual life of the campus; providing an orientation to resources available to students; and promoting problem solving and writing skills. Students who have previously taken any UCOL 1000-level course may not receive credit for this course. *May not be repeated for grade replacement.*

**UCOL 1010. College Transition for Transfers. (3)** Designed to assist with the intellectual and social transition to UNC Charlotte for transfer students by increasing the involvement of students in the intellectual life of the campus; providing an orientation to resources available to students; and promoting problem solving and writing skills. Students who have previously taken any UCOL 1000-level course may not receive credit for this course. *May not be repeated for grade replacement.*

**UCOL 1011. College Transition for Transfers. (1 to 3)** Designed to assist with the intellectual and social transition to UNC Charlotte for transfer students by and increasing the involvement of students in the intellectual life of the campus; providing an orientation to resources available to students; and promoting problem solving and writing skills. Students who have previously taken any UCOL 1000-level course may not receive credit for this course. *May not be repeated for grade replacement.*

**UCOL 1200. First-Year Seminar. (3)** A seminar-style learning experience designed to assist with the intellectual and social transition from high school to college. This course will provide an orientation to campus resources and help students plan how to make the most of their time at Charlotte. *May not be repeated for grade replacement.*

**UCOL 1205. Enrichment Seminar. (1 to 3)** A seminar-style learning experience designed to enrich the education experience of one or more courses taken concurrently. The enrichment seminar is focused around a particular theme defined by the companion course(s) and provides opportunities to explore the topics of the course(s) in more detail and with additional materials, experiences, and assignments. The enrichment seminar will also address the college transition experience by enhancing students' involvement with and knowledge of the campus and its resources and promoting problem solving and oral and written communication skills. Open to new first-year students only; requires co-registration in designated companion section(s) as indicated. *May be repeated for credit with change of topic one time.*

**UCOL 1206. Enrichment Seminar. (1 to 3)** A seminar-style learning experience designed to enrich the education experience of one or more courses taken concurrently. The enrichment seminar is focused around a particular theme defined by the companion course(s) and provides opportunities to explore the topics of the course(s) in more detail and with additional materials, experiences, and assignments. The enrichment seminar also addresses the college transition experience by enhancing students' involvement with and knowledge of the campus and its resources and promoting problem solving and oral and written communication skills. Open to new first-year students only; requires co-registration in designated companion section(s) as indicated. *Graded on a Pass/No Credit basis. May be repeated for credit one time with change of topic.*

**UCOL 1201. Forty-Niner Intensive Transition (FIT) Experience. (1 to 3)** Designed to provide students new to the university with a menu of activities that promote academic and social transition. Specific topics will vary.

**UCOL 1300. Academic Success Seminar. (1 to 3)** Prerequisite(s): Permission of department. Designed to assist continuing university students with the development of study and problem-solving skills.

Emphasizes using academic support resources, engaging in campus life, and enhancing academic performance. *May not be repeated for grade replacement.*

**UCOL 1305. 49er Focus. (0 to 1)** Prerequisite(s): Permission of department. An academic seminar designed to help students find greater success in college and in life. The focus is on maximizing effective study strategies, locating and utilizing resources, and identifying learning preferences to enhance academic performance. *Graded on a Pass/No Credit basis. May not be repeated for grade replacement.*

**UCOL 1307. Academic Success Experience. (0 to 3)** Prerequisite(s): Instructor Permission. Designed to provide students with a menu of activities that help promote the development of study skills, problem-solving skills, and self-awareness that foster academic success. Emphasizes using academic support resources, engaging in campus life, and enhancing academic performance.

**UCOL 1310. Executive Functioning and Academics. (1)** Prerequisite(s): Permission of University College. This enrichment seminar is designed to help students with neurodiversity. The course content focuses on teaching executive function skills/abilities, how they operate, and strategies to engage and strengthen your EF skills/abilities. This course will utilize peer mentors to augment students' academic journeys and connect students with the many on-campus resources available.

**UCOL 1311. Executive Functioning and Wellness. (1)** Prerequisite(s): Permission of University College. This enrichment seminar is designed to help students with neurodiversity. The course content focuses on teaching executive function skills/abilities, how they operate, and strategies to engage and strengthen your EF skills/abilities. This course will utilize peer mentors to augment students' social & wellness journeys and connect students with the many on-campus resources available.

**UCOL 1312. SHIELD Experience. (1)** Prerequisite(s): Permission of University College. Designed to provide students with a menu of activities that help promote the development of skills that foster academic success. Emphasizes executive functions development and peer mentor support. *May be repeated for credit up to 6 credit hours.*

**UCOL 1501. Global Social Science: Study Abroad. (3 to 6)** Throughout the course, students will gain an understanding of contemporary human variability, social and environmental problems, power and inequalities, and global connections. This course can only be used for coursework taken as part of a study abroad experience. *May be repeated for credit with change of topic.*

**UCOL 1502. Global Arts/Humanities: Study Abroad. (3 to 6)** This Global Theme course uses the methods and insights of the arts and humanities to explore the central question of what it means to be a citizen of the world. Through the study of one or more different peoples, societies, or cultures across the globe, students will be able to better understand themselves as part of a complex, interconnected world. This course can only be used for coursework taken as part of a study abroad experience. *May be repeated for credit with change of topic.*

**UCOL 2000. Topics in General Education. (3)** Prerequisite(s): Sophomore, Junior, or Senior standing and permission of the sponsoring department. Topics chosen from the fields covered by General Education in order to demonstrate relationships and interdisciplinary influences. *May be repeated for credit with change of topic and permission of student's major department.* Can be used toward general degree requirements as indicated each time the course is offered.

**UCOL 2101. Introduction to Research. (1 to 2)** A professional development course that prepares students for successful engagement in undergraduate research. Provides an in-depth overview of research methods and practices. Students actively participate in conducting literature research and learn about the research process.

**UCOL 2102. Community Based Research. (1)** This course is intended to engage students who have research and/or service learning experience with theories, principles, and methods associated with Community-Based Participatory Research (CBPR). This course is designed to enhance and refine students' existing knowledge about research, service, and how those two practices can be combined to utilize research to serve your community. This course is intended for students who are interested in practicing and applying CBPR techniques in professional spaces that seek to address social, health, or resource disparities in the community. *May be repeated with no stipulations.*

**UCOL 2200. University Learning Seminar. (1 to 3)** Prerequisite(s): Permission of department. Provides instruction in digital literacy, critical thinking, problem solving, and written and oral communication skills. Each section will be developed around a content theme selected from instructor's discipline. Designed to reinforce and augment students' intellectual and social transition to the University learning environment. Students who have previously taken a UCOL 1000-level course may receive credit for this course if registering with permission.

**UCOL 2400. University Professional Internship Program Practicum. (0)** Prerequisite(s): Sophomore, Junior, or Senior standing; not open to second degree students. All students with a UPIP internship are required to register for the UPIP practicum in each term in which they have an internship. The UPIP practicum coordinates the professional and career development reflections and assignments that are an integral part of the University's Professional Internship Program. Students must apply and be selected for a UPIP internship in order to register; eligibility restrictions apply. For information, contact the University Career Center. *May be repeated for credit.*

**UCOL 2900. Introduction to Applied Undergraduate Research. (1 to 2)** A research course that provides hands-on research experience with a faculty or researcher at UNC Charlotte. Prepares students for successful completion in undergraduate research. Students conduct research with a faculty mentor, compose a research paper, and present their research at the Undergraduate Research Conference. Through the course, students are trained and prepared to develop a research product.

**UCOL 3101. Graduate Education Opportunities. (1)** An introductory course designed to provide talented undergraduate students, particularly from under-represented groups, opportunities to explore various aspects of graduate education. Students participate in instructional sessions designed to provide an overview of graduate education while exploring academic disciplines of interest in more detail. Students develop an admissions application and statement of purpose.

**UCOL 3410. Career Development Internship. (1 to 3)** Prerequisite(s): Junior or Senior standing, and permission of University Career Center. Designed to allow students to take advantage of a workplace experiential

learning opportunity when other options are not available. Completing this internship requires at least 50 hours of supervised employment per registered credit hour. The internship must provide a meaningful work experience in which the student uses the competencies gained from their academic program. An internship proposal form must be completed and approved by the University Career Center in consultation with the student's major department prior to registration and the commencement of the work experience. Students cannot normally count the Career Development Internship towards their major or minor requirements (it counts as elective hours only); exceptions may be possible at the program's discretion. *Graded on a Pass/No Credit basis. May be repeated for credit up to 6 credit hours.*

**UCOL 3450. Teaching Internship. (1 to 3)** Prerequisite(s): Permission of the sponsoring unit and supervising instructor. A structured opportunity for students to develop teaching-related skills by providing assistance to faculty in the classroom and/or working in a structured mentoring role in support units such as the University Center for Academic Excellence. Duties vary depending upon the assignment but may include: conducting review sessions, facilitating study skills sessions, lecturing, and assisting faculty member with exams. *May be repeated for credit up to 6 credits. Graded on a Pass/No Credit basis. Honors course.*

**UCOL 3800. Independent Study. (1 to 3)** Prerequisite(s): Permission of instructor and Dean of University College. Individual research, research, or field-based experience in a topic under the supervision of a faculty member. *May be repeated for credit with permission.*

**UCOL 3910. Undergraduate Research Internship. (0 to 3)** Designed to allow students to take advantage of a research-based experiential learning opportunity. Completing this internship requires at least 50 hours of supervised research per registered credit hour that must be arranged by the student prior to enrollment. The research internship must provide a meaningful learning experience in which the student uses the competencies gained from their academic program. Students cannot normally count the Research Internship towards their major or minor requirements (it counts as elective hours only); exceptions may be possible at the program's discretion. *May be repeated for credit up to 6 credit hours.*

**UCOL 4910. Research Proposal Writing Basics. (1 to 3)** The research grant writing course for undergraduates is designed to help students understand how scholarly research is funded, identify opportunities for funding to support their projects, and to prepare competitive applications for these research funding opportunities. The course will include intensive writing instruction, feedback, and revision. At the conclusions of the course, students will have a completed proposal for a funding application to the program of their choice.

# Urban Studies (URBS)

**URBS 2200. Introduction to Urban Studies. (3)** Cross-listed with GEOG 2200. A survey course exploring the diverse perspectives and experience of North American Cities. Lectures and discussions focus on the development, organization, function, and meaning of urban areas, as well as the multiple and complex relationships that exist between cities and the people who live and work within them. Students who pass this course meet the requirements for the "Western Tradition" area of the LBST requirements and will not have to take an additional course to satisfy that area of General Education.

**URBS 3050. Topics in Urban Studies. (3)** Timely and important areas of scholarship and application relevant to urban studies. *May be repeated for credit with change of topic and permission of Director of the Minor in Urban Studies program.*

**URBS 3801. Independent Study in Urban Studies. (1 to 3)** Prerequisite(s): URBS 2200, Urban Studies minor; Junior or Senior standing; minimum 2.0 GPA; permission of supervising instructor and Director of Minor in Urban Studies program. Area of study beyond the scope of current offerings to be devised by student and faculty member. *May be repeated for credit.* Three hours of URBS 3801 may be used toward the URBS minor with prior approval of the Director of the Minor in Urban Studies.

**URBS 4401. Internship in Urban Studies. (3)** Prerequisite(s): URBS 2200, Urban Studies minor; Junior or Senior standing; minimum 2.0 GPA; permission of Director of Minor in Urban Studies program. Students work 8-10 hours per week (total 120 hours per semester) for 3 credit hours in an approved research or in-service placement relevant to urban studies. Specific content of internship based on a contract between the student, supervising professor, and community/corporate organization. *May not be repeated for credit. Graded on a Pass/No Credit basis.*

# Women's and Gender Studies (WGST)

**WGST 1502. Global Arts/Humanities: Introduction to Gender Studies Around the World. (3)** This Global Theme course uses the methods and insights of the arts and humanities to explore the central question of what it means to be a citizen of the world. Through the study of one or more different peoples, societies, or cultures across the globe, students will be able to better understand themselves as part of a complex, interconnected world. Students are introduced to the interdisciplinary field of Gender Studies sustained by the vast production of feminist scholarships and movements from around the world. Pursuing a globally relational approach to issues of justice and equality, students explore foundational theories, research studies, and activism that have generated local and global social change on issues regarding gender oppression and its intersections with other systems of inequality.

**WGST 1512. Local Arts/Humanities: Introduction to Gender Studies in the U.S. (3)** This Local Theme course uses the methods and insights of the arts and humanities to explore the central question of what it means to be a member of a "local" community. Through the study of the experiences of different peoples, cultures, and communities in our city, our region, or our nation, students will be able to better understand the complexity and diversity of the society in which we live. Students are introduced to the contemporary and foundational questions surrounding gender and its intersections with other structures of inequality, with an emphasis on national and regional examples. Students examine those complex questions of identity and power with an application of theories from a wide range of disciplinary backgrounds. *May not be taken for credit and for a grade if credit has been received for WGST 1101.*

**WGST 2050. Topics in Women's Studies. (1 to 3)** Credit hours vary with topics. Special topics in Women's Studies. *May be repeated for credit with change of topic.*

**WGST 2110. Women and the Media. (3)** Cross-listed Course(s): COMM 2110. Examination of messages about women as conveyed in contemporary media (magazines, newspapers, videos, the Internet, video games, television, and movies.) The role of gender in the power structures of the media producers is also analyzed.

**WGST 2115. Feminism and Pop Culture. (3)** Looks at the way gender and feminist philosophy play a role in the consumption and production of media. Questions are asked: What are the gender politics at work in a given piece of media? What kinds of power structures tend to be portrayed and reinforced in our popular media? Texts are analyzed across a variety of pop culture mediums including video games, television, film, music, and more. These pop culture texts are discussed and analyzed, as well as the power structures involved in the production of these texts, and popular culture through the feminist lenses offered by current feminist scholarship in popular culture studies.

**WGST 2120. African American Women. (3)** Cross-listed Course(s): AFRS 4120. Explores how cultural, political, historical and economic factors shape African American women's positions and opportunities in society today.

**WGST 2123. Women in Cross-Cultural Perspective. (3)** Cross-listed Course(s): ANTH 2123. A cross-cultural survey of the lives of women and the dynamics of gender throughout the world. Uses anthropological research to examine how gender influences evolution, social stratification, work, kinship, and perceptions of the body.

**WGST 2130. Masculinity and Manhood. (3)** This course examines the construction of masculinity in sports, family, work and other social relationships, showing how it shapes and is shaped by people, institutions and society.

**WGST 2140. Gender and Sport. (3)** Explores the gendered nature of sports and the impact of feminist theory on the study of sport. Areas of focus include historical developments, media and representation, race and ethnicity, masculinity, sexuality, and physicality and power.

**WGST 2150. U.S. Women's History to 1877. (3)** Cross-listed Course(s): HIST 2150. A survey of women's experience in the U. S. from colonization through the civil war and reconstruction. Special emphasis on the evolution of women's public roles and the impact of class, race, and region in shaping women's lives.

**WGST 2157. Women & Social Change in the US. (3)** An in-depth analysis of different ways women have organized for change. This course also discusses widely known social movements as historical stories and through a sociological and theoretical lens to provide a greater understanding the dynamics of social movements.

**WGST 2160. Introduction to LGBTQ+ Studies. (3)** Provides an overview of historical, sociopolitical, and psychological influences on the development of current day lesbian, gay, queer, and trans social movements and cultures and their social and cultural impact and experiences.

**WGST 2170. Gender and Globalization. (3)** Cross-listed Course(s): GLST 3121. Examines how globalization interacts with and influences gender roles around the world. Topics include: the effect of globalization on the gendered divisions of power, violence, labor, and resources.

**WGST 2251. U.S. Women's History since 1877. (3)** Cross-listed Course(s): HIST 2151. A survey of women's experience in the U.S. from reconstruction to the present. Special emphasis on work, family, and feminism, and the impact of class, race, and region in shaping women's lives.

**WGST 2252. European Women's and Gender History. (3)** Cross-listed Course(s): HIST 2152. An exploration of women's experiences in western Europe and Russia, covering topics of religion, work, family, and politics.

**WGST 2310. Gender, Activism, and Leadership. (3)** Students select and complete a community activism project focusing on a gender issue. Key issues and controversies of past and present feminist/social movements, and what activists are doing today. While exploring the components of ethical leadership, students learn how to apply classroom theory to the real world around them.

**WGST 3019. Hispanic Women Writers in English Translation. (3)** Cross-listed Course(s): LTAM 3319 and SPAN 3019. Prerequisite(s): Sophomore, Junior, or Senior standing; WRDS 1103 or WRDS 1104 with a grade of C or above; or permission of instructor. Examination of prose and poetry by women writers from Spain and the Americas to understand women's voices and other cultures. Conducted in English; knowledge of Spanish not required. Not applicable toward Spanish major or minor.

**WGST 3050. Topics in Women's Studies. (3)** Special topics in Women's Studies. *May be repeated for credit with change of topic.*

**WGST 3102. Changing Realities of Women's Lives. (3)** Influence of gender, race and class stereotypes on women's identities and choices. Examination of women's individual circumstances through writing.

**WGST 3100. Research Methods in Women's and Gender Studies. (3)** An overview of qualitative and quantitative research methods. Covers the fundamentals of qualitative research by exploring the epistemological issues that shape qualitative research design, multiple ways of knowing, the relationship between theory and qualitative research methods, as well as the significance of critical methods in the study of marginalized groups and the "other." Matters of subjectivity, positionality, reflexivity, and trustworthiness of qualitative data collection and analysis are addressed. Additionally, the following data collection strategies are discussed: focus groups, interviews, narratives, and ethnographies. Examines the fundamentals of quantitative research, by covering the philosophical tenets and basic assumptions of quantitative research, formulation of research questions and hypothesis testing; data collection, basic descriptive statistics, and issues of reliability and validity. Lastly, addresses: (1) the advantages and disadvantages of both qualitative and qualitative research methods and (2) when it is appropriate to use qualitative versus quantitative, or both. *May be repeated for credit one time.*

**WGST 3110. Gender and Communication. (3)** Cross-listed Course(s): COMM 3110. Examination of the relationship between language and gender. Topics covered include how language shapes perceptions of men/women; gender differences in verbal and nonverbal communication; and gendered communication in relationships, friendships, and the workplace.

**WGST 3112. Women's Diaries and Women's Experience. (3)** This course examines why women keep diaries, how diaries provide an understanding of women's experiences, and how diaries may be read as literature.

**WGST 3130. Perspectives on Motherhood. (3)** Examination of the social, political, and economic conditions surrounding motherhood in the U.S.; explores the history and representations of motherhood, contraceptive/abortion issues, pregnancy and birthing practices, gender-neutral, same-sex, and bi-racial parenting.

**WGST 3131. History of Sexuality. (3)** An exploration of the origins and evolution of our modern attitudes toward sexuality, sexual orientation, and gendering in societal context. Discussion of sexual and gender identification, relationship and marriage, family planning and policy, prostitution and vice, and expressions or depictions of sexuality. Case studies may draw from multiple cultures through time.

**WGST 3140. Domestic Violence. (3)** A survey of domestic violence in the US focusing on female experience as both victim and survivor of partner abuse. We will evaluate theories of partner violence, examine types of abuse across diverse female lifespans, and discuss multicultural and gender expectations, treatment, modalities, and social policy implications.

**WGST 3150. Body Image. (3)** Discussion of body image through varying perspectives: size discrimination, advertising and consumerism, eating disorders, cosmetic surgery, self-image/male gaze, health vs. beauty, etc. All perspectives are examined as they are projected across the intersection of sexism, racism, classism, ageism and sexuality.

**WGST 3152. Modern Gay America. (3)** Focuses on the emergence of the LGBT community in 20th century American Culture. Interdisciplinary methods and topics examine intersections of science, religion, popular culture, politics, geography, and other factors as they affect LGBT people in their heterogeneity. This course is designed to be an introduction to the study of LGBT culture, and students at all levels are invited to participate in the discussion of where this community has been and where it will go in the 21st century.

**WGST 3155. Disney: Gender, Race, and Empire. (3)** Focuses on how ideologies of gender, race, class, and sexuality are constructed in early and recent animated films of Walt Disney. By examining the content of these films created within particular historical and cultural contexts, students develop an understanding of the cultural productions, meanings, and intersections of racism, sexism, colonialism, and imperialism. A close analysis of these films also introduces concepts in feminist film theory and criticism.

**WGST 3156. From Girl to Goddess: Quests of the Female/Feminine. (3)** Explores female protagonists' quests through careful analysis of literature and film through a comparison of the universal mythic structure of the Hero and Heroine journeys and archetypes. Focus is placed on how gender expectations and experiences impact the characters' rites of passages. Themes examined are the quests for identity, personal sacrifice, relationships, and how cultural stories reflect deeper patterns in society.

**WGST 3160. Gender and Education. (3)** Explores the relationship between gender and education, primarily in the context of formalized schooling. Topics include: the history of women's education; gender identity and socialization; gender discrimination and biases in curriculum and classroom teaching; gender gaps in academic performance; and the relationship between educational choices and gender.

**WGST 3180. Gender in Hip Hop Culture. (3)** Examines the roles of gender during the Black Power Movement to the ascendancy of Hip Hop culture in the twenty-first century. Designed to introduce students to the patterns of converging and cross cutting racism, nationalism, and feminism that are vitally important to the hip hop generation.

**WGST 3215. Religion and Sexuality. (3)** Cross-listed Course(s): RELS 3215. An examination of the role of religious discourses and practices in shaping, understand and evaluating sexual practices, desires and identities. Although the focus of this course may vary, it may only be taken once for credit.

**WGST 3217. The Bible and Homosexuality. (3)** Cross-listed Course(s): RELS 3217. Considers a wide range of biblical texts that are referenced in political, cultural, and theological arguments concerning homosexuality, lesbian and gay civil rights, and same-sex marriage. Examines how both pro-gay and anti-gay interpreters have engaged biblical texts and invoked biblical authority across time, rather than determining which views are "right" or "wrong."

**WGST 3220. Feminist Thought. (3)** Prerequisite(s): Permission of instructor. Pre- or Co-requisite(s): WGST 1502 or WGST 1512. Cross-cultural and interdisciplinary survey of the main traditions of feminist theory in the context of their historical and philosophical roots.

**WGST 3226. Introduction to the Psychology of Women and Gender. (3)** Cross-listed Course(s): PSYC 2126. Prerequisite(s): PSYC 1101 with grade of C or above. Application of research in developmental, experimental, and clinical psychology to issues regarding women and gender. Includes such topics as gender-role development, gender differences in cognitive abilities and performance, psychological perspectives on women's physical and mental health, and violence toward women.

**WGST 3230. Gender, Work, and Money. (3)** Explores the relationship of American women to money - as workers, consumers, caregivers, etc. Examines the dynamics of wealth, poverty, care-giving, mothering, gendering and occupational segregation on the lives of all women, young and old.

**WGST 3231. Working Women/Women in Business. (3)** Historical, sociological, legal, personal, and cross-cultural issues affecting working women.

**WGST 3310. Gender and Sexuality. (3)** An interdisciplinary introduction to gender and sexuality studies. Its primary focus is critical perspectives on the social construction of gender and sexuality, inequalities based on gender and sexuality, activism around issues of gender and sexuality, and how gender and sexuality shape and are shaped by other systems of inequality.

**WGST 3803. Independent Study. (3)** Prerequisite(s): Permission of instructor and Director of Women's and Gender Studies. Supervised

individual study and/or field-based experience in a topic or area of Women's and Gender Studies of particular interest to the student. *May be repeated for credit.*

**WGST 3820. Feminist Philosophy. (3)** Cross-listed Course(s): PHIL 3262. Views of contemporary feminist and female philosophers on traditional philosophical issues such as ethics, human nature, the construction of knowledge, modes of social and political organization, the relationship between the mind and the body, and the nature of God.

**WGST 4050. Topics in Women's Studies. (1 to 3)** Special topics in Women's Studies. *May be repeated for credit with change of topic.*

**WGST 4130. Girl Studies in America. (3)** Explores the modern cultural, social and personal experience of girls in America. The central focus of the course is the social construction of femininity and how it impacts female adolescents. The influence of race/ethnicity, class, and sexuality upon the lives of female adolescents are examined.

**WGST 4131. Culture, Pregnancy, and Birth. (3)** Cross-listed Course(s): ANTH 4131. Explores how culture shapes the experience and practice of pregnancy and birth. Topics include: the birthing experience, midwifery, infertility, new reproductive technologies, and surrogate motherhood.

**WGST 4132. Reproductive Justice Movement. (3)** Real reproductive justice for women requires "self-determination, equality, and the respect and support of her society" to help end "the discrimination and inequality that keep women from controlling their own reproductive lives" (NOW, 2012). This course seeks to expand upon this definition as it assesses the history of reproductive issues in the United States, birth control methods, pregnancy, artificial reproductive technologies (ART), abortion, fertility control, and other related topics. It is about the right not to have children, the right to have children, and the right to raise your children. This course focuses on the intersectionality of gender, race, and class and how these factors combine to limit or inhibit human reproductive and social justice rights.

**WGST 4140. African American Feminism. (3)** Examines the foundations, ideas, concerns and implications of African American feminism within historical and contemporary United States. Centers on fostering dialogues and critical discussions about African American feminism as a site of theory and practice emphasizing social, political, and personal transformation.

**WGST 4143. Black Masculinity, Health, and Society. (3)** Cross-listed Course(s): AFRS 4050. Exploration of the meanings of Black manhood and the various constructions of Black masculine identity in America and beyond. Students discuss Black male sexuality, including sexual identity development and theories on sexual orientation development. Critical analysis is also given to masculinity theory and how masculinity influences African American men's health, reproductive health, healthcare use, and relationships with women and LGBTQ individuals in the context of other health behavioral theories. Additionally, an intersectional exploration into how Black masculinity is embodied in race, class, education, gender, pop culture, hip hop culture, sports culture, and prison culture is examined in the context of masculinity dimensions.

**WGST 4150. Gender, Science, and Technology. (3)** Examines select issues related to women and gender in science and technology. Topics include: the role of women in science, the impact of science and technology on women, and feminist critiques of science and technology.

**WGST 4151. Women, Biology, and Health. (3)** An understanding of the structure and functions of women's bodies and examines the social, economic, environmental, behavioral, and political factors associated with women's health.

**WGST 4153. Virginity: Power, Politics, and Pleasure. (3)** Examines female virginity from an interdisciplinary perspective - all challenging and re-theorizing our modern conceptions of virginity. Course texts and discussion explore the history, myths, biology, politics, and personal definitions of female virginity and first-time sex across identities of gender, race, sexual orientation, age, and more. A key question considered by the course: why is the initiation into female heterosexuality defined as a "loss" and what has been the consequence?

**WGST 4160. The Politics of the Body. (3)** Cross-listed Course(s): WGST 5160. Examines how biological, historical, and cultural interpretations of race and gender have influenced and characterized the politicization of the human body in relation to concepts of beauty, femininity, masculinity, violence, desire, popular culture, labor, and relationships.

**WGST 4170. Queer Theory. (3)** Introduction to key issues in queer theory, a field of studies that questions and redefines the identity politics of early lesbian and gay studies. Queer theory investigates the socially constructed nature of identity and sexuality and critiques normalizing ways of knowing and being.

**WGST 4190. Indigenous Feminisms. (3)** Cross-listed Course(s): WGST 5190. Focuses on Indigenous feminist writings that both aim toward a constructive project of maintaining and respecting Indigenous ways of life, and that seek to address the detrimental consequences of U.S. and Canadian settler colonialism. Beginning with a theoretical analysis of key concepts such as settler colonialism, Indigeneity, gender, and institutional racism, these key concepts are then examined in present-day colonial formations located through state-sponsored child and family 21welfare services, patterns of incarceration, high rates of sexual violence, and the displacement of Indigenous peoples from their traditional lands. Lastly, state-based efforts to address the needs of Indigenous communities, and collective strategies of resistance practiced by Indigenous women are explored.

**WGST 4260. Women: Middle Age and Beyond. (3)** Cross-listed Course(s): GRNT 4260, GRNT 5260, HLTH 4260 and WGST 5260. Position of older women in society and the particular problems of and issues for women as they age.

**WGST 4401. Internship in Women's Studies. (3)** Prerequisite(s): Women's and Gender Studies minor and permission from the Director of Women's and Gender Studies. Research and in-service training in cooperative community organizations, corporations, and units that are based on women's and gender-based leadership and studies. Specific content based on a contract between the student, supervising professor, and community organization.

**WGST 4601. Senior Colloquium. (3)** Prerequisite(s): 15 credit hours in Women's and Gender Studies or permission of instructor. Critical examination of selected issues.

# Writing, Rhetoric, and Digital Studies (WRDS)

**WRDS 1103. Writing and Inquiry in Academic Contexts I and II. (3)** Prerequisite(s): The WRDS Department uses Directed Self Placement to guide students in their choice of 1103 or 1104. Students will take a guided survey during New Student Orientation about their writing experiences that will determine their placement into WRDS 1103 or 1104. Students write extensively as they explore literacy and writing. They engage critically with the opinions and voices of others while developing an extended inquiry project that integrates materials from varied sources and includes writing in multiple genres. Students write, revise, edit, and reflect on their writing with the support of the teacher and peers. Students also immerse themselves in a conversation about a topic through reading, questioning, and process writing. Students learn to distinguish rhetorical contexts, practice different conventions, and develop positions in relation to research. They also adopt digital technologies to network, compose, and/or critique and disseminate their work. Grades are derived primarily from portfolios that include work generated throughout the term. *Students who have received credit for WRDS 1104 may not enroll in WRDS 1103.*

**WRDS 1104. Writing and Inquiry in Academic Contexts I and II with Studio. (4)** Prerequisite(s): The WRDS Department uses Directed Self Placement to guide students in their choice of 1103 or 1104. Students will take a guided survey during New Student Orientation about their writing experiences that will determine their placement into WRDS 1103 or 1104. In this hybrid course, students learn to analyze and compose a variety of texts and use a range of technologies, adapting language and style for particular audiences, contexts, and purposes. They develop flexible composing strategies; locate and evaluate primary and secondary research; and deepen engagement with source material, their own ideas, and the ideas of others in order to strengthen claims and solidify logical arguments. Grades are derived primarily from portfolios that include work generated throughout the term. *Students who have received credit for WRDS 1103 may not enroll in WRDS 1104.*

**WRDS 2100. Introduction to Digital Studies in Writing. (3)** Prerequisite(s): WRDS 1103, WRDS 1104. Cross-listed Course(s): HCAI 3112. A survey of "digital studies" from both theoretical and practical perspectives, providing students with a broad intellectual framework for understanding how digital platforms, tools, and networks have evolved to shape composition processes and alter the writer-audience dynamic. Students will practice composing across digital modes while developing a more sophisticated understanding of the rhetorical processes of reading and writing in digital spaces and honing their abilities to participate more effectively as writers in those spaces. Major topics can include generative AI and Large Language Models; digital genres such as filmmaking and podcasting; digital publishing like web design, blogging, and self-publication; and the digital ethics around accessibility, algorithms, remix culture, and digital privacy.

**WRDS 2101. Advanced Writing: Research and Critical Analysis. (3)** Prerequisite(s): WRDS 1103 or WRDS 1104 with a grade of C or above. Provides strategies for writing in academic majors, across majors, and beyond graduation into professions and graduate school. Students build on their current knowledge, acquiring advanced research practices; engaging in critical analysis of professional materials in their field; learning to use grammar, mechanics, and textual conventions for appropriate media; and understanding and supporting arguments and claims with credible evidence. The focus is on how to transfer academic writing to students' chosen profession or field.

**WRDS 3102. The Effective Sentence: A Writing Course for All Majors. (3)** Prerequisite(s): WRDS 1103 or WRDS 1104 with a grade of C or above. Students build their writing flexibility by looking at contemporary and historical writing exercises, multiple ways to word sentences, and writing that matches readers' needs, not the writer's. Students consider the old-to-new information flow, sentence rhythm and stress, grammar, usage, punctuation, writing, and revising to create a cumulative ePortfolio.

**WRDS 3140. Arguing With Images. (3)** Prerequisite(s): WRDS 1103 or WRDS 1104 with a grade of C or above. Visual rhetoric and culture teaches students to become proficient and thoughtful users of visual argumentation and to understand how visual rhetoric operates within specific sociocultural and political contexts. Through attention to particular examples of controversies involving images, students learn why and how images matter, and how to leverage the power of images in both an effective and a sensitive way. Assignments require students both to analyze particular controversies involving images, and to create their own images that make controversial arguments.

**WRDS 3160. AI in the Public Imagination. (3)** Prerequisite(s): WRDS 1103, WRDS 1104. Cross-listed Course(s): HCAI 3112. Explores the dimensions of generative AI (GenAI) as it emerges in public discourse and cultural debates. Students will critically analyze how GenAI is framed across news media, social platforms, corporate messaging, and activist movements. Emphasizing media literacy and rhetorical analysis, the course invites students to interrogate the persuasive strategies behind GenAI narratives and to consider their implications for writing, identity, labor, and ethics in digital culture.

**WRDS 3210. Foundations in Human-AI Writing: Prompting Partnerships. (3)** Prerequisite(s): WRDS 1103, WRDS 1104. Generative AI is changing how we write, but the human element remains essential. This course explores the intersection of Writing, Rhetoric, and Digital Studies to help students navigate the new landscape of human-AI collaboration. Students will look at the "rhetoric of the prompt" and explore the complex act of communicating intention to the machine to achieve a specific goal. Rather than just learning technical tricks, writers will develop a critical mindset for composing with Human-AI writing partnerships, analyzing how AI reshapes the relationship between the writer, the reader and the technology itself.

**WRDS 3211. Online Writing: Ethics, Appropriation, and Social Media. (3)** Prerequisite(s): WRDS 1103 or WRDS 1104 with a grade of C or above. Focuses on issues of responsibility, ownership, and access. Students research and write multimodal, online content, exploring the ethics and accessibility of texts in technological cultures that both facilitate and prevent access.

**WRDS 3215. Information Literacy and Digital Composing. (3)** Prerequisite(s): WRDS 1103 or WRDS 1104 with a grade of C or above. Provides highly transferable digital composition and rhetorical skills students can use to compose across many different curricular, academic, professional, and personal contexts. Students learn methods used to cultivate research from digitally enabled social networks and adapt traditional rhetorical skills to account for digital cultures, accessibility,

and portability in an update culture that participates in the critique and composition of online knowledge.

**WRDS 3220. Current Theories and Applications of Writing. (3)** Prerequisite(s): WRDS 1103 or WRDS 1104 with a grade of C or above. Building on historical approaches in composition and rhetorical theories, this activity-based class engages students in a variety of tasks that help them enact the main principles of the discipline. Learning how theories in writing are processes in the making, students learn to use theories to interrogate writing challenges, adapt theories when new tasks present, and develop flexible approaches to communicating in traditional and emerging contexts.

**WRDS 4011. Topics in Writing Technologies. (3)** Prerequisite(s): WRDS 1103 or WRDS 1104 with a grade of C or above. Examination of how various technologies (e.g., sound, gesture, movement, video) complement, forward, or replace print formats in digital spaces. Students also see how these same technologies are accounted for in print, learning to adapt from one medium to another to produce the most effective text for an audience and message.

**WRDS 4021. Topics in Writing and Reading. (3)** Prerequisite(s): WRDS 1103 or WRDS 1104 with a grade of C or above. Focuses on how meaning is constructed through particular mediums. Students learn how various types of "writing" inform, create, and are repurposed within a genre and activity system by examining the multiple representations of an idea, perspective, or representation in order to develop strategies for reading and writing efficiently and effectively within and across complex contexts. Students understand how meaning changes throughout the history and presentation of a genre, and how to effectively read and use those shifts in their own presentations.

**WRDS 4201. Composing Across Borders: Transnational Digital Composition. (3)** Prerequisite(s): WRDS 1103 or WRDS 1104 with a grade of C or above. Explores composing as cultural and political work with a specific focus on what it means to read, write, and research as a global writer in digital settings. In this reading- and writing-intensive hands-on course, students participate and compose in a variety of digital ecosystems, examining how texts create, construct, and reinforce our identity and language use.

**WRDS 4210. Contemporary Rhetorical Theory. (3)** Prerequisite(s): WRDS 1103 or WRDS 1104 with a grade of C or above. Familiarizes students with some of the contemporary conversations that highlight current debates and trends in writing studies that draw from and influence how we write in multiple contexts. Readings focus on rhetorical theory from the mid-20th century through the early 21st century, with a focus on the last twenty-five years.

**WRDS 4225. Writing Research Methods. (3)** Prerequisite(s): WRDS 1103 or WRDS 1104 with a grade of C or above. Explores a broad range of theories and methods for engaging in and reading various aspects of power, organizations, and communication through the lens of qualitative, quantitative, and mixed method writing studies research. Students analyze and apply these methods to any article, research site, or professional setting to answer questions about how people use, create, distribute, and create what stands for evidence-based knowledge.

**WRDS 4330. Reading, Writing, and Archiving: Charlotte. (3)** Prerequisite(s): WRDS 1103 or WRDS 1104 with a grade of C or above. Researchers who work with the public have a particular need to be comfortable with digital tools. Using the city of Charlotte as its subject, this course offers students a basic grounding in the technological skills needed to conduct online historical research and to present the results online, emphasizing how the Internet changes the relationship between researchers and their audience.

**WRDS 4400. Writing, Rhetoric, and Digital Studies Internship Practicum. (3)** Prerequisite(s): Junior or Senior standing; Writing, Rhetoric, and Digital Studies major or minor; and 2.0 GPA in all major or minor coursework. Pre- or Corequisite(s): WRDS 4225. Internships are off-campus experiential learning activities designed to provide students with opportunities to make connections between the theory and practice of academic study and the practical application of that study in a professional work environment. Internships are completed under the guidance of an on-site supervisor and a faculty sponsor who, in combination with the student, creates a framework for learning and reflection. This internship asks that students use the range of theories and methods from previous courses to study various aspects of power, organizations, and communication flows. Students work 8-10 hours per week and are assisted in finding placements that extend their learning experience.

**WRDS 4402. Research, Theory, and Practice of Tutoring Writing. (3)** Cross-listed Course(s): ENGL 4400 and ENGL 5400. Prerequisite(s): WRDS 1103 or WRDS 1104; and interview and permission of WRC Director and/or Assistant Director. A practicum, which educates peer tutors to assist writers in the Writing Resources Center (WRC). All writing consultants are required to complete this course, which provides an introduction to writing center research, theory, and practice. Coursework explores the history, contexts, and research-based principles of writing centers; the social, collaborative nature of learning; strategies of one-with-one writing instruction; threshold concepts in Writing Studies; composition theory; and current issues in writing pedagogy, such as linguistic justice and accessibility. Significant attention is given to practices for supporting multilingual writers. In addition to completing coursework, students tutor in the WRC for three hours per week. Because this course includes a practicum in the WRC, enrollment is by permission only, following a successful interview with the Director and/or Assistant Director of the WRC.

**WRDS 4800. Independent Study. (1 to 3)** Prerequisite(s): Permission of department. Individual investigations and appropriate exposition of the results. (Unless special permission is granted by the department chair, no more than six hours may apply toward the WRDS major.) *May be repeated for credit with permission of department.*

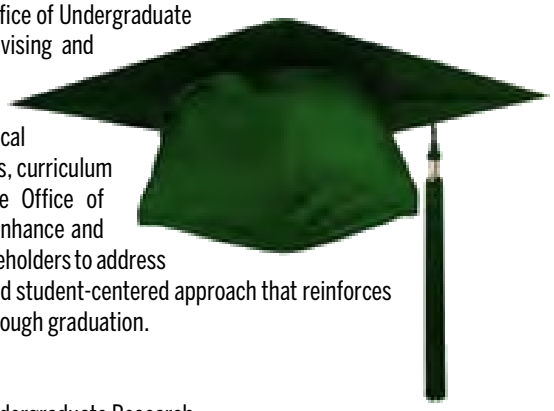
**WRDS 4900. Senior Research Capstone. (3)** Prerequisite(s): Junior or Senior standing; Writing, Rhetoric, and Digital Studies major or minor; and 2.0 GPA in all major or minor coursework. Pre- or Corequisite(s): WRDS 4225. Students complete an article-length research paper under the supervision of a member of the faculty (typically the instructor-of-record for the course). The paper must involve quantitative or other methods of writing research. Students propose and research a topic that builds on their previous coursework for the Writing, Rhetoric, and Digital Studies major.

# Office of Undergraduate Education

# Office of Undergraduate Education

uge.charlotte.edu

The Office of Undergraduate Education at UNC Charlotte enriches the academic community by offering a broad range of initiatives promoting student success, ensuring access, and enhancing the educational experience of all students. Broadly speaking, the Office of Undergraduate Education's responsibilities fall in two areas: (1) curriculum and integrated learning, and (2) advising and experiential learning. Through transition programs, learning communities, support for student-athletes, career services, experiential learning, disability services, tutorial programs and other success services, the Office of Undergraduate Education supports students in cultivating life skills critical to successful graduation and global citizenship. In addition, through its faculty development programs, curriculum improvement and innovation initiatives, leadership on advising, and community outreach, the Office of Undergraduate Education engages the University's academic units, faculty, and staff in efforts to enhance and improve both the quality and effectiveness of our academic programs. Working with students and stakeholders to address the needs of a diverse student population, the Office of Undergraduate Education utilizes an integrated student-centered approach that reinforces rigorous academic expectations and encourages student engagement from the time of enrollment through graduation.



The Office of Undergraduate Education consists of the following:

- Advising Systems
- Athletic Academic Center
- Communication Across the Curriculum
- Disability Services
- First Year and Transition Programs
- Ninerways Quality Enhancement Project (QEP)
- Office of Undergraduate Research
- University Advising Center (including Pre-Health Advising)
- Career Center (including Pre-Law Resources)
- University Center for Academic Excellence
- University College
- University Transfer Center

# Advising Systems

advising.charlotte.edu/manage-your-academic-journey/technology-your-journey

The Advising Systems Team works with the campus community in supporting student success by utilizing academic software systems for early alerts, appointments, notifications, notes, and student progression/performance tracking. These systems include CONNECT, Navigate 360 Student, and DegreeWorks. Faculty in 1000- and 2000-level courses report early alerts by the fourth week in the semester using CONNECT. An early alert triggers an email sent to a student's UNC Charlotte email account. This email contains information related to missing assignments, missing classes, or demonstrating low performance. Students are able to make appointments with academic advisors and other academic support services, such as tutoring and academic consultations, to improve performance in their courses. Navigate 360 Student is a mobile app that allows students to be able to keep track of university deadlines, provides tips to success, and links to CONNECT. DegreeWorks, managed by the Office of the Registrar, is the official degree audit system to track progress towards degree completion and has degree planning features.

# Athletic Academic Center

charlotte49ers.com/sports/athletic-academic-center

The Charlotte 49ers Athletic Academic Center (AAC) is committed to empowering all Charlotte varsity student-athletes to take ownership of their personal academic experience. The center provides a framework of support services designed to meet the unique needs of student-athletes, assisting them to achieve academic and personal success at the University while ensuring the student athlete's compliance with all National Collegiate Athletic Association (NCAA), Conference and University regulations.

The Athletic Academic Center operates dual centers: the ATAC AAC located in the Miltimore-Wallis Athletics Training and Academic Center adjacent to the Barnhardt Student Activity Center and the Board of Trustees (BOT) AAC is located in the Rose Football Center adjacent to McColl-Richardson Field. The academic facilities have study areas, computer labs, private tutor rooms, and offices.

# Communication Across the Curriculum

cxc.charlotte.edu

Communication Across the Curriculum (CxC) supports student success through programs designed to integrate writing and speaking into disciplinary curricula and general education. CxC's vision is that all students have multiple, high-quality opportunities throughout their academic careers to develop their communication skills. CxC staff partner with academic colleges, departments, and individual faculty to facilitate curricular transformations that broaden and deepen student learning and engagement. The following programs are offered on a regular basis by CxC:

## Curriculum Consultation

CxC consults with departments in all disciplines to strengthen student learning experiences and content knowledge through communication-enhanced curricula. This comprehensive approach identifies areas of strength and opportunities for growth in the teaching and learning of writing and speaking. On a smaller scale, CxC consults with faculty of all ranks and in all disciplines, in small groups and individually, to assist with specific course and assignment design, as well as pedagogy and teaching practice.

## Professional Development

CxC facilitates various professional development opportunities for faculty throughout the year that seek to develop communication across the disciplines, including:

- CxC Webinars
- CTCM 2530 Course Prep
- Communication-Enhanced Teaching Academies
- Workshops (customized to group needs, upon request)

## Student Communication Consultants

CxC administers a student peer-mentoring program, providing opportunities for students to work as Communication Consultants with faculty and departments who develop communication-enhanced curricula and teaching practice. The consultant's role when working with students is to act as an engaged reader/listener, providing informed, constructive criticism directed toward the focus, scope, evidence, analysis, organization, clarity, and style of papers and presentations. Consultants also provide faculty with constructive feedback on how students are experiencing communication-enhanced curricula and assignments.

# Disability Services

ds.charlotte.edu

The Office of Disability Services (DS) is the University office designated to determine reasonable accommodations for students with disabilities. In accordance with state and federal laws, our mission is to help ensure access to education and campus life while fostering an inclusive, accessible environment for all undergraduate, graduate, and continuing education students.

### Getting Started

- Submit Documentation: Provide documentation of your disability to DS for review. Documentation guidelines and details on getting connected are available at ds.charlotte.edu.
- Email Notification: Once your documentation is reviewed, you will receive "next steps" via your University email.
- Interactive Process: If eligible, schedule an appointment with a DS staff member to discuss your accommodation needs.

Visit the Office of Disability Services online to learn more about getting connected, accommodations, and services.

# First-Year & Transition Programs

firstyear.charlotte.edu

Recognizing the importance of the first year in shaping a student's college experience, the First-Year & Transition Programs work across the University to develop and coordinate programs that support new students. These include:

## Prospect for Success

The Office of Undergraduate Education coordinates the University's Prospect for Success program. Prospect for Success is a campus-wide academic engagement initiative for all incoming first-year students.

Each college at UNC Charlotte has a Prospect for Success curriculum that fits the needs of students in their programs. The Prospect course that all new students take addresses three learning outcomes: commitment to success, inquiry/critical thinking, and engagement across perspectives.

## Learning Communities

UNC Charlotte's Learning Communities Program enhances the way students live, learn, and succeed in their academic endeavors. Students who participate in a learning community interact closely with Charlotte faculty, staff, and peer mentors through areas of common interest, enroll in two or three of the same courses, and -- in many cases -- live together in the same residence hall.

Contact and application information for UNC Charlotte's Learning Communities can be found online at lc.charlotte.edu.

**UTOP (University Transition Opportunities Program)**
UTOP is a traditional summer bridge program in which incoming first-year students engage in a rigorous six-week collegiate experience. Guided by peer mentors, they earn 7 credits and learn about Charlotte resources that will support their academic, social, and leadership potential. Learn more at utop.charlotte.edu.

**FIT (49er Intensive Transition Program)**
FIT students join campus one week before the fall semester kicks off and envelop themselves in enriching 1-3 credit hour courses. Learn more at https://uge.charlotte.edu/forty-niner-intensive-transition-program-fit/.

**NINERways**
The NINERways is a university initiative to boost student success in mathematics and statistics in general education courses required for their majors. The primary aim of NINERways is to enhance the learning experience and support systems in introductory mathematics and statistics courses to ensure that students are well-prepared to excel in their chosen fields of study.

# Office of Undergraduate Research

our.charlotte.edu

The Office of Undergraduate Research (OUR) supports UNC Charlotte students, faculty, and staff in their endeavors to expand the quantity and enhance the quality of undergraduate research experiences on campus. We strive to be an office that supports access to opportunities for research training and development while fostering academic and professional growth for students. The goal of OUR is to build community amongst scholars, artists, and researchers at UNC Charlotte.

The mission for the Office of Undergraduate Research at UNC Charlotte is to promote scholarly identities through experiential learning by advancing access to and engagement with mentored research and creative activities as an integral part of the undergraduate curricular and co-curricular programs for Charlotte's diverse student body.

Our vision is to expand research opportunities and promote academic success for undergraduate students through innovation, mentored scholarship, creative expression, and entrepreneurship. This high-impact practice enhances students' ability to construct knowledge and prepares them to become life-long learners and to address future problems as enlightened citizens and leaders.

Key aspects of fulfilling this vision include:

- Creating developmentally appropriate opportunities for all undergraduates to engage in creative learning and critical inquiry that increases relevant career competencies and curiosity about how they can impact their personal and professional communities.
- Removing barriers and increasing access to opportunities, so research can become a central feature of the undergraduate experience for all interested students at UNC Charlotte.
- Serving as the primary campus resource for students, faculty, and staff seeking guidance or support related to each of these activities.

OUR provides undergraduate research fellowships, grants, and opportunities to communicate research to others through multiple research symposia and funding to attend local, regional, and national conferences to present research. OUR fosters the professional development of mentors and research students through workshops, learning communities, professional networking, and scholarly discussions.

# University Advising Center

ucol.charlotte.edu/advising

The University College Advising Center provides academic advising services to students who are undeclared, exploring, or transitioning between majors.

Academic Advisors in the Advising Center collaborate with all Colleges and Schools on-campus to support students in making decisions regarding major declaration and to ensure smooth transitions to and from majors. The Academic Advisors, in collaboration with many campus partners, work to provide new and creative opportunities for students to explore majors and careers that align with their abilities, interests, and strengths. The University College Advising Center works closely with other services within the Office of Undergraduate Education to ensure consistent and frequent referrals to academic enrichment and support services.

# Career Center

career.charlotte.edu

The Career Center (CC) offers comprehensive career services designed to assist undergraduate and graduate students in all stages of career development. Each student has a specific career advisor (based on the student's major and including undeclared majors). Career advisors assist students with exploring majors and careers, gaining experience, conducting job and internship searches, and transitioning after graduation. In addition to individual appointments and group workshops, the CC hosts career fairs and events throughout the year and provides a host of resources online at career.charlotte.edu. The staff collaborate with academic colleges to coordinate experiential learning, and career advisors teach career-related sections of freshman and transfer seminars. The center offers the following programs.

## Preparation for Professional Schools

An education at UNC Charlotte can prepare students for a number of professional careers. Students who plan to enter a professional school are advised to plan their program of study so that general requirements for their degree are met in addition to the requirements for the professional program being considered. This can begin with a discussion with an academic advisor as soon as a student starts to explore professional schools. Students should become familiar with the requirements of the professional schools of interest. That school, not UNC Charlotte, will determine which UNC Charlotte credits will be accepted.

Professional school entrance requires an extensive commitment and focused career choice. Certain careers require an advanced degree, and the Career Center (CC) can help students identify what kind of graduate study will best prepare them for the specific career of interest. In addition, the career resource collection in the CC contains information on preparing for professional school exams, select fellowships and grants, and in-depth career information. Hire-A-Niner, the CC's online job and internship database, includes relevant job shadowing, internship, and work opportunities. Résumé critique sessions, application essay reviews, and mock interviews offered by the CC can be geared toward professional school admissions, based on student need. Professional programs recruit on campus career fairs that happen throughout the academic year.

It is important to note that there are more application requirements for professional programs than for undergraduate programs. Application is often an extensive and in-depth process. The CC can help students plan the application and career development processes, which includes career exploration through job shadowing, self-assessment, career research, and internships.

### Pre-Law Advising

Admission to law school is determined mainly by undergraduate grade point average and the score on the Law School Admissions Test (LSAT). Applicants must also submit letters of recommendation and a recitation of extracurricular activities, and personal statement, but those items are secondary to the GPA and LSAT. There is no defined program of pre-law courses, and law schools do not favor or require a specific major. Law schools look for students who have taken courses that are academically rigorous, including writing intensive and research-oriented courses.

To learn more about law school, please visit the UNC Charlotte Pre-Law Society website at unccprelaw.com or contact the Department of Criminal Justice and Criminology. For law-related student organizations, please visit the Student Organizations website at studentorgs.charlotte.edu.

## Part-Time Employment On/Off-Campus

The UCC's Job Location and Development (JLD) Program assists students in obtaining off-campus jobs including part-time, summer, temporary/seasonal, and full-time (non-degree). Job listings may be viewed online in Hire-A-Niner at hireaniner.charlotte.edu and often include career-related positions in various fields. In addition, all on-campus jobs can be found in Hire-A-Niner (both Federal Work Study eligible and non-Federal Work Study).

## Experiential Learning Programs

The majority of UNC Charlotte students are expected to and do participate in University-sanctioned experiential learning programs. Opportunities are available for both undergraduate and graduate students to receive course credit, or other recognition for supervised experiences in public and private agencies within the community, nationally, and internationally. These opportunities are offered through experiential learning programs including over 670 courses involving clinical rotations, cooperative education, internships, and practicums. For full description of related courses, see the Course Descriptions section of this *Catalog*.

### Cooperative Education

This career-related professional program is available to students in the College of Computing and Informatics and College of Engineering. Participants must be enrolled full-time in an undergraduate degree program, and have a cumulative GPA of at least 2.5, and complete course requirements specified by their department. Transfer students must complete 12 hours at UNC Charlotte before applying to the program. Co-op students work two to three semesters either part-time or full-time (depending on college requirements) with an employer in a paid work experience. Participants receive transcript notation, not academic credit.

### Academic Internships

Some academic departments award students credit for completing relevant internships. Students are encouraged to check with their academic department for further information and academic eligibility requirements.

## University Professional Internship Program

The University Professional Internship Program (UPIP) offers paid on-campus internships to full-time sophomores, juniors, and seniors. Internships are designed to provide professional knowledge and skill development consistent with the student's major/career goals. Students work through their home academic department for approval of academic credit for their internship. UNC Charlotte faculty and administrators serve as mentors to interns, with each internship paying $12 per hour for 10-15 hours per week during the Fall and Spring semesters.

# Office of Pre-Health Advising

### Office of Pre-Health Advising

UNC Charlotte offers pre-professional preparation for undergraduate, graduate, and post-baccalaureate students interested in pursuing a career in medicine, dentistry, veterinary medicine, pharmacy, optometry, physician assistant, physical therapy, podiatry, and related healthcare careers. Opportunities and services available to students include:

- Strong academic preparation in the required prerequisite core of science and math courses
- Broad selection of recommended complementary non-science Courses
- Pre-Health Advising for academic and non-academic requirements for professional school admission
- Guidance for all phases of the application process to professional schools
- Guest speakers and pre-health information sessions
- Opportunities to participate in research
- Pre-Health student organizations that offer pre-health events, volunteer opportunities, and peer support

Like most universities, UNC Charlotte does not offer a pre-health major or formal pre-health program. Students must select a major and are responsible for completing the prerequisites for their chosen professional school *in addition* to courses for their major and Bachelor's degree. There is no requirement to major in science, but strong preparation in science and math must be demonstrated, regardless of the major. A Pre-Health Advisor will assist the student with identifying the appropriate pre-professional courses and formulating a timeline for their completion.

Pre-health students are encouraged to consult with a Pre-Health Advisor to plan and review their preprofessional course of study and other requirements necessary for admission into professional schools. Additional information may be found on the Pre-Health Professions website at advising.charlotte.edu/pre-health, including prerequisite course lists for various professions.

For information on pre-health student organizations, visit studentorgs.charlotte.edu.

### Prerequisite Core Courses

The basic minimum requirements for entrance to most health professions schools are as follows:

| Subjects | Credit Hours |
|---|---|
| Biology (with labs) | 8 |
| General Chemistry (with labs) | 8 |
| Organic Chemistry (with labs) | 8 |
| Physics (with labs) | 8 |
| English | 6 |

*Note: These are the common minimum requirements; additional courses may be required at the discretion of individual professional schools. Most students will need additional coursework and healthcare-related extracurricular activities to be competitive for admission to professional schools. Community service is also highly recommended.*

### Faculty Evaluation Committee for Pre-Health Professions

The UNC Charlotte Pre-Health Professions Faculty Evaluation Committee serves as the main recommending body for UNC Charlotte students seeking entrance to medical, dental, veterinary, and optometry schools. Students must have competitive academic credentials to qualify for a committee letter. For information on the committee letter process, the student should contact the Office of Pre-Health Advising prior to applying to professional schools.

# University Center for Academic Excellence

ucae.charlotte.edu

The University Center for Academic Excellence (UCAE) provides academic support services and resources that increase learning effectiveness, enhance student success, and promote academic excellence. All services are free to enrolled UNC Charlotte students. For additional information on any of the programs and services offered by the UCAE, visit ucae.charlotte.edu. The UCAE offers the following programs and services:

## Academic Skill Workshops

A wide variety of workshops and presentations are offered each semester on topics that help students achieve academic success. These interactive workshops are led by staff and graduate students on-site and across campus. Topics include: Time Management, Goal Setting, Effective Note Taking, Motivation, the Science of Learning, and more.

## Learning Commons

The Learning Commons is a place where students can come to study in a welcoming environment with academic support only a few steps away. They can make use of computers and pay-for-print services, as well as a library of resources.

## Peer-Assisted Learning

The Peer-Assisted Learning (PAL) program assists students in historically difficult courses in fields such as biology, chemistry, physics,

engineering, mathematics, business, and the social sciences. In weekly scheduled group study sessions, trained peer leaders help students refine the unique skills necessary for succeeding in the target course. Peer leaders plan sessions that focus on collaboration and active learning. Data show that students regularly participating in Peer-Assisted Learning sessions are better prepared and average significantly higher final course grades compared to non-participants. The program has been nationally certified through the College Reading and Learning Association (CRLA).

## Academic Consultations

Academic Consultations are one-on-one meetings tailored to the academic needs of the student. They are designed to help students discover more about themselves and develop personalized strategies for comprehensive collegiate success. Assessments of study habits/attitudes can also be administered and interpreted during consultations. Students may sign up for one-time or ongoing appointments to address their academic success goals.

## Academic Coaching

The 49er Connect program links UNC Charlotte students to trained academic coaches, called Success Guides, who provide academic support and accountability. Success Guides are there to help their peers strengthen academic skills like goal setting, time management, and note-taking. They meet with students to troubleshoot issues in classes or to navigate campus resources. In addition to regular email check-ins, they provide reminders about University deadlines and share study tips throughout the semester.

## Accountability Groups

Accountability Groups capitalize on the productivity strategy known as "body doubling" to offer structured individual work time by facilitating a small group environment that encourages community and collaboration, where peer leaders model effective and transferable academic strategies.

## Office of Academic Recovery and Retention

The Office of Academic Recovery and Retention, sits within the University Center for Academic Excellence, and assists students in returning to good academic standing following any period of academic difficulty through academic skill development, case management, and advocacy. Our work focuses on coordinating outreach to students on academic probation, students on continued probation, students suspended from the university and students reinstated from suspension as well as students readmitted with academic forgiveness. Through strong collaboration with campus partners, we work to refer students who need academic assistance to campus resources based on their needs, obstacles, and goals. We also provide counsel regarding navigating university policies and procedures related to academic standing and readmission. We consult with academic departments, the Registrar's Office, the Provost's Office, and the Office of Financial Aid to provide the most accurate information available to students while also advocating for our students by elevating their needs and experiences to our campus partners.

The Office of Academic Recovery and Retention offers the following programs and services:

### 49er Rebound Program

49er Rebound is an academic recovery program to assist students who are on academic probation at the end of their first year of enrollment at UNC Charlotte. New freshmen and transfer students from all colleges participate in the program. Students have several options to participate in the program depending on their schedule and preferences, including: both a credit and a non-credit bearing academic success course, or peer mentoring for individualized support.

**UCOL 1300**, or the Academic Success Seminar this for credit course is designed to focus on academic skills and understanding campus resources for students who are on academic probation. Students become part of a small classroom community that fosters connections with other students and the instructor.

**UCOL 1305**, or 49er Focus is a zero credit (pass / fail) academic seminar designed to help students find greater success in college and in life. The focus is on maximizing effective study strategies, locating and utilizing resources, and identifying learning preferences to enhance academic performance. This course is typically offered in spring semesters.

### Students Obtaining Success

Students Obtaining Success (SOS) is a peer-mentoring program for students experiencing academic difficulty at UNC Charlotte. SOS is a semester-long program that is individually tailored to help students overcome their unique challenges, improve academic performance, and return to good academic standing. The peer mentoring program is designed to empower students to identify strengths, develop academic and personal strategies to be successful, and connect with appropriate campus resources. Any student experiencing academic difficulty is eligible to register for SOS, though priority is given to students participating in 49er Rebound. Each participant meets weekly with a well-trained undergraduate peer mentor for support and guidance. The SOS program has been nationally certified through the College Reading and Learning Association (CRLA) at Level III, Master Mentor.

49er Rebound works! Students who complete 49er Rebound have significant GPA improvement and return to good academic standing at higher rates than those who do not complete the program.

### Academic Success Experience

The Office of Academic Recovery and Retention also offers proactive support for students who may need additional academic support at the midpoint of their semester. The Academic Success Experience is an academic course available to students during the second half of each semester.

**UCOL 1307**, or the Academic Success Experience is a proactive academic support intervention for students who have received early alerts, unsatisfactory midterm grades, or had to withdraw from a course and need additional structure in the second half of the semester. This for credit course promotes the development of study skills, problem-solving skills, and self-awareness, thereby fostering success. UCOL 1307 emphasizes the use of academic support resources, engagement in campus life, and the improvement in academic performance.

## Tutorial Services

Serving all UNC Charlotte undergraduate students, the Tutorial Services Program provides free tutoring by appointment and drop-in sessions. Appointments are offered in person and virtually. Students also have the opportunity to set up recurring, weekly appointments. Tutoring is offered

for courses in various subjects including mathematics, science, business, engineering, health and human services, foreign languages and others as needed. Peer tutors emphasize learning skill development and content mastery. UCAE Peer Tutors are selected based on expertise in their area of academic discipline and faculty endorsements. Along with tutor professional development and tutee learning facilitation, Tutorial Services progressively updates its practices and policies as a nationally certified program through the College Reading and Learning Association (CRLA) at Level III.

# University College

ucol.charlotte.edu

The University College serves as the academic home for undeclared students, offering a supportive environment for exploration and decision-making. Designed to assist students in discovering their academic and career interests, the University College provides guidance, resources, and advising to help students make informed decisions about their academic paths. With a focus on holistic development, it serves as a bridge to various academic disciplines, fostering a smooth transition for students as they explore and choose a major that aligns with their passions and goals.

The populations of students that form the University College include undergraduate students who are exploring their options before choosing a major or transitioning between majors. Students within the University College will have several Meta-Major options to choose from. Meta-Majors provide a clear pathway to declaring a major and help make connections between academics and different career tracks. Before students declare a major, they are advised in the University College Advising Center. The Advising Center staff are also able to refer students to a variety of support offices available to assist students.

See the "Degree Requirements and Academic Policies" section of this Catalog for details on the General Education Program at UNC Charlotte.

# University Transfer Center

transfercenter.charlotte.edu

The University Transfer Center (UTC) supports and advocates for students with transfer credit, guiding them from pre-enrollment through graduation. Through collaboration with campus partners and North Carolina community colleges, the UTC provides advising, resources, and engagement opportunities that promote clear academic pathways, reduce time to degree, and strengthen persistence. The Center focuses primarily on prospective and newly enrolled transfer students.

### Advising

The UTC provides advising at every stage of the transfer process. Pre-transfer advising is available to any student with prior college credit who is planning to transfer to UNC Charlotte. Through one-on-one advising, students can explore their academic and career goals, understand how credits may transfer, and identify courses that apply directly to their intended major and support timely degree completion. Pre transfer advising is provided through 49erNext and individual advising appointments for prospective transfer students.

For enrolled students with transfer credit, the UTC offers guidance on credit evaluation, articulation, and the academic petition process to help students progress efficiently toward graduation. The Center also partners with community college advisors and maintains UNC Charlotte Transfer Guides to promote aligned coursework and clear degree pathways.

### Engagement

The UTC promotes engagement for transfer and post-traditional students through coordinated programming and campus partnerships. Key initiatives include transfer focused events during Gold Rush and National Transfer Student Week and leadership and recognition opportunities through Tau Sigma, the national honor society for transfer students. Through intentional programming, the UTC creates opportunities for transfer and adult learners to connect with peers, access campus resources, and deepen their engagement with the university.

By integrating advising, engagement, and advocacy, the University Transfer Center supports transfer and post-traditional students in progressing efficiently toward graduation and fully engaging in the UNC Charlotte community.

# *Campus Life* and Student Resources

# Campus Life and Student Resources

charlotte.edu/landing/campus-life

The University of North Carolina at Charlotte provides a comfortable and enjoyable environment for students that is conducive to learning. The services, facilities, and programs of the University promote individual student development and foster a community which promotes the involvement of students in their intellectual, cultural, spiritual, emotional, and physical development.

Students at UNC Charlotte are encouraged to participate in extracurricular activities. Athletics, the Student Government Association, the Campus Activities Board, and Student Media are a few of the available activities that can play a significant role in each student's development and total education. Participation in activities, ranging in type from service and religious to athletic and social, and from creative arts and crafts to wilderness experiences, increases a student's opportunities to acquire leadership skills, to experience the responsibilities involved in functioning within a self-governmental process, and to develop personal talents and interests.

***Note:*** *Students are entitled to participate in several student groups and organizations as long as they are academically eligible to continue their enrollment. However, participation in some activities requires students to be in good standing with the University, both academically and in accordance with The Code of Student Responsibility (located in the "University Regulation of Student Conduct" section of the Catalog).*

# Enrollment Management

enrollment.charlotte.edu

## Adult Students Admission Program (ASAP)

Adult students, 24 years of age or older who have been out of school for five or more years and present appropriate educational credentials, are encouraged to make an application through the Office of Undergraduate Admissions. This unique program offers adults the opportunity for special admissions status, an academic advisor through the Office of Adult Students and Extended Services (OASES), and adult transitional support services throughout the first two years of their enrollment. Students who declare a major are advised through their major department.

## New Student Orientation (NSO)

New Student Orientation (NSO) occurs during the summer and immediately prior to the fall and spring semesters. Led by a team of dedicated staff and student leaders, NSO prepares students and families to succeed at UNC Charlotte by understanding academic expectations, developing connections with their peers, and learning about important campus processes. Learn more at orientation.charlotte.edu.

## Niner Guides

Part of Undergraduate Admissions, Niner Guides are the University's official tour guides. Being a Niner Guide is more than just giving tours, it is sharing your love of the University with prospective students and their families when they visit our beautiful campus. Program benefits include: volunteer experience, priority class registration for active guides who fulfill tour requirements, leadership and personal growth opportunities, and public speaking and communication skills. Learn more at admissions.charlotte.edu/connect/niner-guides.

## Office of Adult Students and Extended Services (OASES)

The Office of Adult Students and Extended Services (OASES) is dedicated to empowering adult learners and supporting their successful re-entry and completion of degrees at the university. OASES collaborates with academic units to develop effective strategies for readmission and re-enrollment, particularly for students who have previously stopped out. OASES strives to connect all adult and readmitted students with essential campus resources, guiding them in developing academic and career goals, and ultimately supporting their timely graduation. Visit OASES for detailed information and office hours.

# Athletics and Recreation

charlotte49ers.com

## Charlotte 49ers/Athletics

The Charlotte 49ers Department of Athletics provides competition in 19 intercollegiate varsity sports for men and women, with the addition of women's lacrosse coming in 2024-25. Each sport competes under the governing powers of

the National Collegiate Athletic Association (NCAA) at the Division I level, which is the highest competitive level for collegiate varsity sports. Scholarships are available for all varsity sports, male and female.

Male student-athletes compete in nine sports: baseball, basketball, cross-country, football, golf, soccer, tennis, indoor track and field, and outdoor track and field. Female student-athletes compete in nine sports: basketball, cross-country, golf, soccer, softball, tennis, volleyball, indoor track and field, and outdoor track and field.

The Charlotte 49ers are affiliated with the American Conference. American Conference tournament champions in baseball, men's and women's basketball, men's and women's golf, women's lacrosse, men's and women's soccer, softball, men's and women's tennis, and volleyball receive automatic bids to NCAA Tournaments. Bowl bids are available to American Conference schools in football. Charlotte Athletics joined the American Athletic Conference in all sports in the Fall of 2023.

### Facilities

On-campus facilities play host to Charlotte 49ers athletics, with the exception of golf and cross-country. Sites for home competition for the 49ers include:

- McColl-Richardson Field at Jerry Richardson Stadium (football)
- Halton Arena (basketball and volleyball)
- Irwin Belk Center and Charlotte Soccer Field (soccer and track and field)
- Halton-Wagner Tennis Complex (tennis)
- Robert and Mariam Hayes Stadium (baseball)
- Jani King Field at Sue M. Daughtridge Stadium at Phillips Complex (softball)

For more information about the Charlotte 49ers, please visit Charlotte49ers.com.

UNC Charlotte students receive **FREE ADMISSION** to all regular-season home athletic contests. For all events, students gain admission with a valid UNC Charlotte student ID.

## University Recreation

University Recreation is part of UNC Charlotte's Health and Wellbeing Unit, along with the Center for Wellness Promotion, Student Health, and the Center for Counseling and Psychological Services. Together, they are committed to fostering the holistic well-being of students by providing collaborative care and support. The campus community is empowered and engaged through services, education, activities, and facilities that promote healthy living.

University Recreation provides programs and services that provide opportunities for University students, faculty/staff members, and alumni to participate in recreational activities. Intramural sports are scheduled throughout the year in both tournament and league formats for individuals, pairs, and teams. Sport clubs provide an opportunity to participate in a single sport on a continuing basis. Nearly 40 clubs, ranging from equestrian to lacrosse and fencing, are active each semester, and many compete regionally and nationally. There are many ways to get physically active with University Recreation. We host nearly 70 fitness classes weekly, including Zumba, cycling, yoga, Pilates, and more. Strength training options include access to free weights, selectorized equipment, functional training equipment, and cardio machines at both the University Recreation Center and Belk Gym. Personal training and small group training are also available for an additional fee. The aquatics program offers open swim, swim lessons, and water safety courses. We also host two signature events each year. RecFest welcomes students back to campus every August and the 49er Gold Rush 5K occurs on campus in early February.

University Recreation is one of the largest employers of students, with more than 200 students working in a variety of jobs such as facility assistants, sport officials, group fitness instructors, personal trainers, lifeguards, marketing assistants, and more. Visit urec.charlotte.edu for more information about how to get involved.

## Recreational Facilities

### Indoor Facilities

#### University Recreation Center

The University Recreation Center, also known as UREC, is a five-story, 148,000 square foot space dedicated to student recreation and fitness. The facility features four multipurpose courts for basketball, volleyball, badminton, and pickleball; outdoor basketball, pickleball, and sand volleyball courts; indoor and outdoor pools featuring a vortex loop, 4 lanes for lap swimming (25 yards), and zero depth entry; over 30,000 square feet of dedicated fitness space on multiple levels; five multipurpose and group fitness studios including one for cycling; a personal training assessment room; a demo kitchen; an elevated track; an indoor turf area; locker rooms on the 1st and 3rd floor, including 4 single use accessible locker/changing rooms; and three outdoor terraces with beautiful views of the campus.

At UREC, the mission is to engage the University community through recreational programs, activities, and facilities, and this facility is designed to do just that by encouraging patrons to lead a healthy and active lifestyle!

#### Belk Gymnasium

The Belk Gymnasium serves as the primary auxiliary space for indoor recreation, and features multipurpose courts for basketball, volleyball, and badminton; an indoor swimming pool; two racquetball courts; a group fitness studio; and lockers for students, faculty, and staff. It also houses newly renovated classrooms, and an auditorium for meetings and presentations.

### Student Activity Center

The James H. Barnhardt Student Activity Center (SAC) is a multi-purpose facility designed to meet the diverse social, cultural, and recreational needs of students at UNC Charlotte. The SAC is home to the Halton Arena, a 9,000 seat venue hosting athletic events, concerts, lectures, and a variety of other University functions.

Retractable seating in the area folds back to reveal an indoor climbing wall and four recreational courts that may be used for Intramural Sports, Sports Clubs, or for special events including job fairs, trade shows, etc. In addition to recreational offerings, the SAC also serves as a meeting place for students and the campus community. The third floor of the SAC consists of a large and gracious hospitality area that can be subdivided into five separate meeting salons. Adjacent to the hospitality area is a campus catering kitchen, serving the special events in the SAC as well as other campus events.

## Outdoor Facilities

### Northeast Recreational Field Complex (NRFC)

The Northeast Rec Field Complex or NRFC, features over 21-acres of synthetic turf fields for soccer, football, and softball with lights for night-time use. NRFC is home to several intramural sports as well as open recreation opportunities, and can be used for sport clubs and other events.

### Hayes Recreational Field Complex

Located off Phillips Road above the Wells Fargo Field House, the Hayes Rec Field Complex is home to three recreational fields - two are natural grass (Fields 11 and 12) and one and one synthetic turf (Field 13). All fields are fenced-in and lighted for night-time use. These fields are the home of many Sport Clubs, and are also available for reservations.

### C.O.R.E.

The Callisthenic Outdoor Recreation Equipment (C.O.R.E.), is conveniently located adjacent to the on-campus greenway and near Belk Residence Hall. The equipment (i.e., pull up, parallel, and dip bars, ab benches, and more) can diversify your outdoor workout experience on campus. The C.O.R.E. was made possible through a partnership with UREC and the Levine Scholars Program.

# Auxiliary Services

aux.charlotte.edu

In support of the University's educational mission, Auxiliary Services provides goods and services to meet the needs of the campus community. These include:

- 49er Mobile ID
- Dining, meal plans, and campus spending accounts
- On-campus bookstore
- Printers and copiers
- Parking and transportation services
- Mail and package services
- Passport services
- ATM stations and vending machines
- Laundry and dry cleaning locker pick-up and drop-off service

## 49er ID

The 49er Mobile ID is the preferred University identification. Physical cards may be available for students whose circumstances require a physical credential. Every student's 49er Mobile ID contains a photo, name, and a unique student ID number (different from a Social Security number for privacy reasons), and ISO number. The 49er Mobile ID proves that the student is a member of the campus community and entitled to certain services.

**A 49er Mobile ID allows access to:**

- Campus housing
- Campus activities and programs
- Athletic events and recreational facilities (i.e., Student Activity Center, Belk Gym, UREC)
- Computer labs
- Student Health Center
- 49er Account funds
- Optional Dining Account funds
- Meal plans
- Library privileges
- A secondary credential for gated parking deck/lot access

**To get a 49er ID, students need:**

- A student ID number that begins with 800 or 801 (assigned at acceptance; appears on the acceptance letter)
- To be registered for classes
- To download the Transact eAccounts app
- To upload your ID photo in the Transact eAccounts app
- To add your approved credential to your mobile wallet

Entering students should set up their 49er Mobile ID prior to New Student Orientation.

The 49er Mobile ID can only be used by the student to whom it is issued. Misuse of the identification card will result in disciplinary action. There is a $20 fee to replace lost/stolen identification cards. For additional details, visit aux.charlotte.edu/49er-card.

### 49er Account

The 49er Account resides on the UNC Charlotte 49er ID. Students deposit funds to activate the account. The 49er Account may be used at over 100 locations including:

- All campus dining locations including athletic events and campus convenience stores
- All campus retail locations: Barnes & Noble Charlotte, NinerTech, Campus Salon, Union Station and REPROS Copy Center
- Atkins Library (fines)
- Parking and Transportation Services
- Mail & Package Services
- Campus vending machines
- Self-service copiers and pay-for-print printers in the library and labs

The 49er Account spends like cash for products and services all over campus but can't be used for cash advances or purchases off-campus. A 49er Account is safe, secure, and won't incur fees like overdraft charges.

There are three ways to deposit funds onto the 49er account:

1) Online through the Transact eAccounts app or online at the 49er Spending Accounts website: charlotte-sp.transactcampus.com/UNCC/AnonymousHome.aspx
2) In person: Visit the 49er Card and Meal Plan Office in Popp Martin Student Union
3) By mail: Send check or money order to the 49er Card Office, 9201 University City Blvd., Charlotte, NC 28223. Be sure to include the student's UNC Charlotte ID number and make checks payable to UNC Charlotte – 49er Account.

## Bookstore

Located in the Student Union, Barnes & Noble Charlotte offers: the Niner Course Pack affordable rental textbook program, new and used textbooks (with online ordering and pre-pack services); general interest and children's books; school supplies; computer software; gifts; and the largest selection of UNC Charlotte apparel, gear and merchandise available. More information is available online at aux.charlotte.edu/bookstore and charlotte.bncollege.com.

#### Niner Course Pack

The Niner Course Pack is a textbook rental program that all students are enrolled in each semester unless otherwise notified. Enrollment in the program is automatic, and the cost is $20 per credit hour per term. Students who wish to opt out of the program must do so before the posted deadline each semester. Students who opt out must purchase or rent their materials from Barnes & Noble Charlotte or another bookstore. More information is available at aux.charlotte.edu/niner-pack.

## FedEx Office Print Center

FedEx Office is a full-service print service right on campus. Print anything flyers, banners and signage to reports, presentations, and posters. The FedEx Office Print Center is located on the lower level of the Prospector building. For details, visit aux.charlotte.edu/copy-print.

## Dining on Campus

UNC Charlotte offers a wide variety of dining options in different locations across campus. From buffet-style dining at Social 704 and SoVi to retail dining at over 20 locations, students find something to suit their taste, budget, and food preferences. A number of flexible meal plans suitable for resident students and commuters are available. For additional details, visit aux.charlotte.edu/dining.

## Mail & Package Services

Mail & Package Services is a fully-operational Postal Contract Station, capable of services equivalent to that of a U.S. Post Office. Send and receive mail and packages, buy stamps and shipping supplies, or rent a campus mailbox at locations in Prospector and the Popp Martin Student Union. For additional details, visit aux.charlotte.edu/mail.

#### Passports

Union Station in the Popp Martin Student Union provides passport application and passport photo services. For details, visit aux.charlotte.edu/mail-package/union-station.

## Parking and Transportation Services

Parking and Transportation Services (PaTS) provides parking management and transportation services for UNC Charlotte students, faculty, staff, and visitors.

### Parking Permits

The PaTS office is located in the Facilities Operations/Parking and Transportation Services Building. All campus parking requires the purchase of a University virtual parking permit or payment in visitor areas. Virtual parking permits may be purchased online at pats.charlotte.edu. Permits do not guarantee proximity parking, nor do

they reserve a specific parking space in any lot or deck.

### Permit Types

- **Annual Full-time Commuter** (C), on-campus **Resident** (R), and **Faculty/Staff** (FS)
- **Night permits** are valid only after 3 p.m.

A limited number of discount permits are available for commuter students and staff who are willing to park in a remote lot. Discount Lot 27 is a "walking lot" with no bus service within 1/10 mile. Additionally, there are discounted North Deck Only permits or Lot 6A permits available to commuter students. Niner Transit services North Deck and Lot 6A.

Complete permit information including prices, permit types, and where each permit allows you to park; and parking rules and regulations are available online at pats.charlotte.edu. For information on fees for motor vehicle registration and parking, see the section on "Financial Information" in this *Catalog*.

### Parking Availability

The Parking Availability tool allows commuters to see parking deck capacity in real time. Save time by using parkingavailability.charlotte.edu to create your parking plan prior to heading to campus.

### Niner Transit Bus Service

Buses operate seven days a week, except on observed holidays and when the campus is closed: 6 a.m.-2 a.m. weekdays and 9 a.m.-2 a.m. weekends. Niner Transit operates fare-free bus routes that serve the main areas of campus and provide safe, reliable, and ADA-compliant transportation. For route maps and schedules, visit pats.charlotte.edu.

### Passio GO!

Passio GO! is a free app that provides real-time transportation tracking information for campus buses and ADA Paratransit vehicles. The app is compatible with Android and iOS operating systems, phones, or tablets, and is available online at passiogo.com.

### Niner Paratransit Service

PaTS offers disability transportation service on weekdays during the fall and spring semesters. Service is limited to those with temporary and permanent mobility impairments. Riders must register for the service through the Office of Disability Services at 704-687-4355. Forms are available on the PaTS website at pats.charlotte.edu/transportation/disability-paratransit and at the Office of Disability Services or the PaTS office. For additional information, contact PaTS at 704-687-5636.

### Bike and e-Scooter Rentals

Pedal-assist bikes and e-scooters are available for short-term rental at hub locations all over campus. Additional information about the program is available online at pats.charlotte.edu//transportation/e-scooters-and-bikes.

### Bike Lockers

Bike lockers are available to current students, faculty, and staff. They are located in CRI, North, and South Village parking decks, and Lot 27. Lockers are supplied at no charge to students, faculty, and staff who have a valid full-year UNC Charlotte parking permit. Otherwise, lockers may be rented for $15 a semester or $40 for the year.

### Charlotte Area Transit System (CATS)

The Miscellaneous Transportation Service Charge entitles students to ride on Charlotte Area Transit Systems LYNX light rail, CATS buses, CATS airport sprinter service and STS service (requires individuals to sign up for Special Transportation Service) without having to pay a fare.

To ride the LYNX light rail, students must download the CATS-Pass app and show their All-Access Pass, if requested by a fare inspector. LYNX light rail services the main campus, Center City, Pineville, and many locations in between. Routes and schedules are online at charlottenc.gov/CATS/Ride/Rail.

For CATS buses, students show their All-Access Pass in the CATS-Pass app upon entering a bus.

# Dean of Students Office

dso.charlotte.edu

The Dean of Students Office is a department within the Division of Student Affairs and serves as a key link between students and other areas of campus life. The mission of the Dean of Students Office is to empower students by providing resources and opportunities to address their needs, remove barriers, and foster a culture of resilience, accountability, and personal growth. Program areas housed within the Dean of Students Office include: Basic Needs Services; Student Assistance and Support Services; Student Accountability and Conflict Resolution, and Niner Finances. The Dean of Students Office, along with its programs and services, is your resource for navigating the student experience – from emergencies and food security to conflict resolution, financial guidance, and personal support. Whether you're facing a crisis or just wanting clarity on policies, we are here to guide you, educate you, and help you succeed. We envision a university where every student is empowered to thrive, lead, and shape their future. As collaborative campus partners, we will bridge connections across the university and anticipate evolving student needs to foster a culture of trust, belonging, and future-readiness.

The main Dean of Students Office suite is located in King 217. For more

information, visit dso.charlotte.edu.

## Student Assistance and Support Services (SASS)

Student Assistance and Support Services (SASS) advocates for students experiencing a broad range of issues, concerns, or challenges interfering with a student's ability to be successful academically or personally at UNC Charlotte. SASS can advocate for students who may have missed classes due to medical appointments, personal or family emergencies, military orders or certain court orders, but do not have the authority to grant specific academic accommodations within the classroom setting. SASS can provide verification of these types of absences via an online request form and official supporting documentation. Faculty have full authority to provide academic accommodations and are encouraged to work with students directly. The SASS office also oversees both the partial and full withdrawal with extenuating circumstances processes during the current academic term. These academic options assist students who may need to reduce their course load or take a full break from academic work in a given semester. Extenuating circumstances may include medical or mental health concerns, personal emergencies, or military orders.

Students can seek out support directly in the SASS office or may be referred to the office by faculty, staff, or other community members. Professionals within the office also provide consultation to faculty and staff needing guidance regarding a student issue or concerning student behavior, and guidance and support to parents and family members seeking help on behalf of their students. To learn more about these services, along with the additional services provided by SASS, visit sass.charlotte.edu.

## Basic Needs Services

Basic Needs Services Provides assistance and support to students experiencing basic need insecurities, with specific oversight of the University's Jamil Niner Student Pantry. We also facilitate communication among students and a variety of campus partners (housing, academic officials, financial aid, etc.) to raise awareness of campus and local resources, coordinate access of resources, and provide consultations on supporting students related to basic need insecurity.

### Jamil Niner Student Pantry

The Jamil Niner Student Pantry is a food pantry that offers fresh and non-perishable food items as well as personal hygiene items for students experiencing food insecurity at UNC Charlotte. The Pantry is located at 1224 John Kirk Dr. on the edge of campus. Visit ninerpantry.charlotte.edu for more information.

## Student Accountability and Conflict Resolution (SACR)

The mission of Student Accountability and Conflict Resolution is to uphold academic and community standards, encourage personal accountability and responsible decision making; promote student learning; and reduce and prevent behavior that undermines student success and community safety. We are committed to providing a fair, impartial, and efficient process facilitated through compassionate conversations in which students are heard, respected, and treated with dignity.

As part of their individual responsibility to the University community, all UNC Charlotte students are expected to be familiar with University Policy 406, the Code of Student Responsibility, and University Policy 407, the Code of Student Academic Integrity. Any person may report an alleged violation(s) of the Code of Student Responsibility or Code of Student Academic Integrity online at incidentreport.charlotte.edu. Individuals may report crimes or incidents involving imminent threat of harm to Police and Public Safety at 704-687-2200. Visit accountability.charlotte.edu for more details.

## Niner Finances

Niner Finances provides UNC Charlotte with the knowledge and skills necessary to make informed and sound financial decisions. Niner Finances understands and embraces the fact that knowledge and skills alone do not guarantee financial well-being or security. Our team takes on an individualized approach to working with people to understand their emotions, attitudes, motivations, and lived experiences pertaining to their personal finances. By providing education, resources, coaching, and services that align knowledge with personal orientation, Niner Finances helps to ensure long-term financial security of the individuals we serve. Visit online at ninerfinances.charlotte.edu.

# Environmental Facilities and Services

## Botanical Gardens

The UNC Charlotte Botanical Gardens, located on campus, consist of the McMillan Greenhouse, the 7-acre Van Landingham Glen, and the 3-acre Susie Harwood Garden. The mission of the gardens is to inspire a love for plants and nature through programming, classes, and botanical displays. The gardens were begun in 1966 by the late biology professor emeritus, Herbert Hechenbleikner, to serve as a living classroom and have evolved into a multifaceted campus and public resource. Collections include orchids, carnivorous plants, succulents, native plants, tropicals, and native collections including hardy outdoor trees, shrubs, wildflowers, and ferns. The outdoor gardens are open seven days a week during daylight hours, and the greenhouse is open Monday through Friday from 9 a.m. to 4 p.m. Students and the public are invited to visit, free of charge. Visitors can check out a hammock at the greenhouse, or enjoy a picnic lunch at tables near the gazebo. The Gardens also offer classes and events throughout the year, including two annual plant sales in the Spring and Fall, and an annual Valentine's Day orchid sale. The plant sales help to support the operations of the Gardens, where admission is always free. More information can be found online at gardens.charlotte.edu.

## Environmental Health and Safety

It is the mission of the Environmental Health and Safety Office to support the University by working with all University community members to provide a safe and healthy working, teaching, learning and living environment. This is accomplished by providing high-quality, responsive, customer-focused environmental health and safety services to the campus community. It is our responsibility to develop environmental health and safety programs, maintain appropriate accident documentation, conduct safety inspections of all facilities and operations, audit safety programs, maintain all regulatory required reports, and generally work to reduce the risks of illness or injury.

All members of the University community share the responsibility to provide and maintain a safe and healthful campus environment and to reduce or eliminate known hazards. Each individual is expected to exercise appropriate care in the conduct of his or her activities to preserve the safety and health of self and others. For more information, please visit safety.charlotte.edu.

## Recycling

UNC Charlotte students recycle! Started in 1990 by engaged student representatives, the recycling program has grown from collecting just aluminum cans to more than 40+ items on campus. Recycling stations are available in academic and administrative buildings, outdoor areas, and in all residence halls.

Recycling stations collect the most common recyclable items, including bottles and cans, paper, and cardboard. Weird Recycling Centers are provided in the Student Union and other locations to collect empty and clean plastic bags, cords/cables, batteries, printer cartridges, eyeglasses, and CDs. Packaging products are collected at Mail Services in Prospector, including cardboard and plastic film (wrap, bags, and air pillows).

An online tool, Waste Wizard, is available to look up any item or material to learn how it can be addressed on campus. It can be found at recycling.charlotte.edu. Waste Wizard also includes items that the university can re-use or compost, and provides clear definitions of what items are trash. Keeping trash out of our recycling is critical for getting those materials back into the Charlotte economy.

UNC Charlotte has events and volunteer opportunities to learn and help with recycling. Look for "Free Store" events at the start of a semester, to pick up office supplies collected for re-use. Resident Move-in and Move-out are major recycling events. Our stadium is a "zero-waste" facility by request of the Student Government Association, and student volunteers are critical to collect and sort materials from the large crowd events. Cleanups and an Adopt-a-Spot program help control litter.

For more information or to get involved, visit recycling.charlotte.edu and follow @unccrecycling on Instagram.

# Health and Wellbeing

## Student Health

Student Health provides comprehensive healthcare services to enrolled students at UNC Charlotte. Services include primary medical care, disease prevention, and various specialty services, including allergy injections, immunizations, gynecology, lab and x-ray, and STI screening. Student Health is staffed by a team of physicians, physician assistants, and nurse practitioners. The on-site Pharmacy has over-the-counter items and fills prescriptions. Students can have their prescriptions transferred to the pharmacy to assist with continuity of care.

Student Health functions by appointment which eliminates long waits and assists students in scheduling medical services around class schedules. Students are expected to be 15 minutes early for appointments.

After-Hours Nurse Triage services are available by phone when it is not open, including nights, weekends, and holidays. There are a number of urgent care centers and a major hospital within a few miles of the University, if medical care is needed when Student Health is closed.

The health fee covers the cost to see a provider and some other services. There are charges for x-ray, pharmacy, laboratory, injections and special procedures. Payment may be made by credit card or transferred to the student's University account. Student Health files insurance for those students who have the Student Blue Health Insurance plan. Visit our website to explore additional insurance companies with which we are in-network. For more information, visit the Student Health website at studenthealth.charlotte.edu or call 704-687-7400.

Students are required to either provide proof of insurance or purchase a University Student Health Insurance Plan. All students will be charged for the Student Health Insurance Plan; however, students will have this charge removed if they complete the waiver by the deadline. The waiver process can be found under the Insurance tab at studenthealth.charlotte.edu.

North Carolina law requires students to have proof of immunizations. This must be provided to Student Health upon registration. Students whose immunizations records are not complete are subject to being withdrawn from their classes. Please see "Immunization Requirements" in the Admission to the University section of this *Catalog* or visit studenthealth.charlotte.edu under the Immunizations tab.

## Center for Wellness Promotion

The Center for Wellness Promotion (CWP) utilizes prevention and health promotion strategies to empower students to make informed decisions about their personal health and wellbeing. We address key topics that impact college students, including sexual health, mental health and suicide prevention substance use prevention and recovery, interpersonal violence prevention, and other dimensions of wellness.

CWP delivers services through health education workshops and events, skill-building training, campus-wide wellness initiatives, and outreach efforts. CWP also coordinates the Charlotte Recovery Program, which provides clinical services and other support to students in recovery from substance use disorders, as well as resources for students seeking to change their relationship with substances.

The Center for Wellness Promotion offers a variety of opportunities for students to engage in wellness promotion initiatives, including undergraduate student employment as Peer Health Educators, graduate assistantships, and internships within the department.

for Wellness Promotion is available at: wellness.charlotte.edu or calling 704-687-0311.

## Counseling and Psychological Services (CAPS)

Counseling and Psychological Services (CAPS) at UNC Charlotte supports the holistic well-being and academic success of students and contributes to a healthy and inclusive campus climate. This is accomplished by providing short-term individual and group counseling, crisis management, consultation, referral services, and educational and preventive initiatives for the campus community. In addition, CAPS supports the academic mission of the University by serving as a training site for graduate students and supports scholarly activity and professional development of staff.

CAPS aspires to create an affirming, accessible, and safe environment that celebrates human diversity. CAPS understands diversity, which includes but is not limited to: race, ethnicity, gender identity and expression, sexual identity, sex, age, socio-economic status, religion, ability, nationality, and language.

Counseling provides an opportunity for individuals to improve personal skills, build resiliency in the face of adversity, develop increased confidence, overcome mental health concerns that can hinder personal effectiveness, learn to make better decisions, and acquire a keener awareness and appreciation of their needs and the needs of others. In a personal interaction with a counselor, a student feels supported to validate, explore, and express feelings, examine values and ways of thinking about the world, reflect on and change patterns of behavior, and work toward making healthy changes to meet specific personal and interpersonal goals.

For many students, relationship or other developmental issues are central concerns. Others may be experiencing specific mental health concerns such as depression, anxiety, eating disorders, use of alcohol and other drugs, or difficulties in adjustment. Counselors are available to consult with students about these concerns.

All currently enrolled students are eligible for an initial consultation. This first appointment is intended to assess the student's needs, and the student and counselor decide how best to meet those needs. Follow-up services may consist of individual or group counseling or psychoeducational workshops at CAPS and/or a referral to an on-campus or off-campus service. Information shared by student clients is confidential in accordance with ethical guidelines and the laws of the state of North Carolina.

Outreach and community engagement services seek to enhance the overall campus climate and promote optimum mental health for our students through stigma reduction, prevention, and psycho-educational programming

Initial consultations can be scheduled in advance by calling 704-687-0311 or visiting the Christine F. Price Center for Counseling and Psychological Services. Same-day initial consultations are offered when available. More information about CAPS and its services can be obtained by visiting caps.charlotte.edu.

# Housing and Residence Life

housing.charlotte.edu

Housing and Residence Life (HRL) offers a variety of housing options including traditional, suite, and apartment style. Living on campus helps you build your foundation for success at UNC Charlotte.

## Traditional

Within traditional style housing there are two configurations: singles (one person/one bedroom) and doubles (two person/one bedroom). Each resident is provided a bed (mattress and bed frame),

desk and chair, dresser and a closet or wardrobe. Traditional style housing features community bathrooms shared by residents of each floor, as well as community lounges and study rooms. Laundry facilities, a kitchen and vending are also provided in each building.

## Suites

Within suite style housing there are five configurations: one person/one bedroom, two person/two bedroom, three person/three bedroom, four person/four bedroom, and four person/two bedroom. Each suite style unit contains bedroom(s), a shared living room and shared bathroom(s). Each resident is provided a bed (mattress and bed frame), desk and chair, dresser and a closet or wardrobe. In most suite shared living rooms, a couch and tv stand is provided (note: shared space furnishings vary by hall).

## Apartments

Within apartment style housing there are two configurations: one person/one bedroom and four person/four bedroom. Each apartment style unit contains bedroom(s), a shared living room, a shared kitchen and shared bathroom(s). Each resident is provided a bed (mattress and bed frame), desk and chair, dresser and a closet or wardrobe. In most apartment shared living rooms, a couch and tv stand is provided, in the shared kitchen a full size fridge, microwave, stove/oven and either a small table and chairs or bar stool is provided (note: shared space furnishings vary by hall).

## Greek Village

Greek Village comprises 13 houses and is home to UNC Charlotte's sororities. In addition, there are houses reserved for non-greek residents. Each house has a large living/chapter room, dining room, office and full kitchen for common use and sleeps either 28 or 14 residents.

## Summer Housing

Students eligible to live in summer housing must be registered for summer classes at UNC Charlotte or enrolled at UNC Charlotte in the spring semester and pre-registered for class in the upcoming fall semester. For information about summer housing, visit housing.charlotte.edu/apply/summer-housing.

## Applying For Housing

Living on campus at UNC Charlotte is very popular, and demand is high. To support the success of incoming students, HRL prioritizes applications from entering first time in college (FTIC) students, as available space allows. In addition, assignments are made according to a combination of factors including availability, roommate requests and building/room preferences. To apply, visit housing.charlotte.edu/apply. A $100 non-refundable housing application fee is required and does not guarantee a housing assignment. New students must have submitted their intent to enroll and paid their enrollment deposit before they will have access to the housing application.

## Accommodations for Students with Disabilities

Housing and Residence Life works in coordination with the Office of Disability Services to provide reasonable accommodations for residents with disabilities. To ensure all requests are managed in accordance with UNC Charlotte policies, as well as State and Federal laws, students are asked to contact the Office of Disability Services directly to submit their documentation and formal requests.

# International Programs

oip.charlotte.edu

## Charlotte Global

Charlotte Global (CG) strives to strengthen international education and global learning at the University as well as in the Charlotte community. On campus, it seeks to make international understanding, intercultural competency and global awareness a fundamental part of the curriculum and an integral part of campus life through innovative and accessible programming. Charlotte Global serves as a center of leadership and responsibility for the international role and mission of the University. CG constituent units include CG Administration (CGA), the Office of Global Education and Engagement (OGEE), the Office of Education Abroad (EA), the International Student and Scholar Office (ISSO), the English Language Training Institute (ELTI), and the Office of Intercultural and Educational Experiences (OIEE). In addition, CG is the campus host for the World Affairs Council of Charlotte.

## CG Administration

The Charlotte Global Administration unit (CGA) includes the Associate Provost, the finance office, and administrative staff. CGA provides overall leadership and direction for Charlotte Global and its constituent units; develops, supports, and organizes a wide range of on- and off-campus programming; supports faculty development through various initiatives; guides the development of institutional agreements and ongoing partnerships with foreign universities; and provides leadership and advice to promote campus internationalization efforts.

## Office of Global Education and Engagement

The Office of Global Education and Engagement (OGEE) orchestrates academic and co-curricular opportunities to infuse global and intercultural learning for University constituencies and the Charlotte community. OGEE facilitates student development and learning through its campus international and cultural programming, as well as public service. As such, OGEE implements various internationally focused campus events including, but not limited to International Education Week, International Women's Day, UNC Charlotte International Festival, International Speaker Series, and activities associated with the Mu chapter of the Phi Beta Delta Honor Society for International Scholars.

OGEE offerings promote global learning and engagement. OGEE (1) implements the Global Engagement Scholars Program (GESP), designed to strengthen global competencies and understanding; (2) oversees the Global Gateways on-campus internationally themed living community, offering students the opportunity to live together while participating in intentional cultural learning activities; (3) implements country-culture workshops to enhance the community's global understanding and (4) coordinates the Globally Networked Learning (GNL) program which promotes access to global learning opportunities to all through virtual international collaborative projects in courses that are taught by UNC Charlotte and overseas faculty.

In addition to campus-based programming, OGEE supports CG's public service work to initiate and respond to the international needs and interests of the University and the Charlotte area-wide community. Current programs include: (1) Great Decisions, an annual series of lectures/discussions on key policy issues; (2) cross-cultural training, custom-designed workshops that focus on appreciation for other cultures and development of skills in effective communications across cultures; and (3) International Festival, a celebration of cultural diversity and "marketplace" style program featuring international foods, music, and dance from more than 50 countries.

## Office of Education Abroad

The Office of Education Abroad (EA) is committed to providing quality, accessible global learning opportunities to all students to enhance their studies in an experiential environment abroad. Further, EA supports faculty initiatives to create innovative study abroad, exchange, and virtually connected international programs to enhance learning and student success.

Students are encouraged to consider the benefits of an academic program through study or experiential learning abroad. In addition to University-administered programs, EA has partnerships with program providers facilitating access to additional programs from a worldwide framework of opportunities. Students can select from year-long, semester, summer, or other short-term programs.

In addition, EA provides students the opportunity to implement theoretical knowledge into practice beyond the UNC Charlotte classroom, challenge their assumptions of and learn more about different cultures, and explore their own relationship with the changing global landscape while making progress toward their degree requirements.

## International Student and Scholar Office

The International Student and Scholar Office (ISSO) provides support, services, and programs that assist international students visiting scholars and international faculty in achieving their educational, professional and personal goals while fostering an appreciation for a culturally diverse learning environment in the larger University community.

UNC Charlotte hosts a vibrant international community. About 1,500 non-immigrant international students and more than 100 international scholars and faculty, representing nearly 100 countries around the world, study, teach, and conduct research at UNC Charlotte. The ISSO conducts orientation, cultural programming, and individual advising; provides assistance with navigating complex immigration regulations; maintains institutional compliance; supports and advocates for the international community. International and/or U.S. domestic faculty or staff who wish to learn more about immigration matters or work with international students may attend various workshops offered regularly. The ISSO also supports programs to encourage international and domestic students' interaction, such as the International Coffee Hour, Friendship and Culture Exchange Program, and the Cultural Ambassadors programs.

## English Language Training Institute

The English Language Training Institute (ELTI) serves as our University's intensive English language program (IEP) by introducing and refining the English language and cultural adaptation skills that students will need to succeed in their academic careers. Students complete the program well prepared for academic study at UNC Charlotte or other U.S. colleges and universities.

The ELTI offers six levels of English language instruction to participants from a diverse range of countries each semester. In addition to benefitting from 18 hours of instruction each week, students have the opportunity to attend UNC Charlotte academic classes, meet with U.S. conversation partners, and tour area schools and sites of cultural interest. On average, students study with ELTI for two semesters.

ELTI also evaluates new faculty and graduate teaching assistants at UNC Charlotte for whom English is an additional language. An enrichment program is offered each semester for graduate teaching assistants who quality. The course reinforces communication skills that are vital in the classroom, such as incorporating functional language cues, using accurate vocabulary, and improving pronunciation.

## Office of Intercultural and Educational Experiences

The Office of Intercultural and Educational Experience (OIEE) promotes intercultural awareness, education, and professional training by designing and implementing custom on campus short-term programs for both domestic and international partners.

Each program is developed in collaboration with institutional, regional, and overseas partners as well as University faculty to deliver strong, outcome-focused programs. These highly desirable learning experiences prepare individuals to be successful in an increasingly global society. Program offerings include a wide array of academic and professional development topics, such as education, leadership, marketing, STEM, and language immersion.

Each experience is custom-designed and infused with experiential learning and cultural, social, and recreational events, as well as opportunities for engagement with the Charlotte and University area-wide communities.

## World Affairs Council of Charlotte

Founded in 1983, The World Affairs Council of Charlotte (WACC) serves as a community outreach program for Charlotte Global at UNC Charlotte. By serving as a regional center for education and discussion of world affairs, WACC provides leadership for global thinking, understanding that a broad perspective is necessary for effective competition in the global economy and for responsible citizenship in an increasingly interdependent political world. The WACC hosts internationally renowned speakers to address topics ranging from economics to globalization to foreign policy.

The WACC also serves as a resource for the local school community, providing educational programming and scholarships. Each year, WACC awards nearly $35,000 through their Council Scholars program, which provides funds to area K-12 educators to support international education initiatives. In addition, WACC has established close ties with the local school districts, providing learning resources to local K-12 student populations. Since 1996, the organization has directly affected over 700 teachers and more than 75,000 students.

# Library

library.charlotte.edu

The J. Murrey Atkins Library, the largest academic research library in the Southern Piedmont region and a member of ASERL (the Association of Southeastern Research Libraries), is the center of intellectual life at UNC Charlotte. The Library's mission is to advance the scholarly and creative endeavors of the University and the greater Charlotte community by providing exceptional collections, spaces, services, and technologies. It inspires innovation, supports research, and cultivates scholarship.

### Research

In addition to holding over 1.3 million physical items, including almost 13,000 rare books, the Library continuously develops its digital collections and currently provides access to nearly 200,000 electronic journals, 517 databases, and 2.4 million electronic books. Expert subject/liaison librarians offer a variety of research services: course assignment, project, and research paper help; citation management assistance; information literacy classes; support within Canvas courses, and much more. Students get assistance from a subject librarian through live chat, email, phone, in person at the Information and Research Desk on the 1st floor, and one-on-one consultations for deeper, subject-related research guidance. Students and classes conduct research with rare and archival materials in Special Collections and University Archives on the 10th floor.

### Services

*Ask Atkins* assists students, faculty, and staff at three service desks and via live chat, email, phone, and text. The Information and Research Desk on the 1st floor is the main service point for locating, lending, renewing, and returning library material including laptops, Interlibrary Loan items, and Course Reserves material. Document delivery, book retrieval, and Interlibrary Loan are available to students, faculty, and staff to facilitate access to library collections and research material. Research services include face-to-face and online assistance with all stages of the research process, research instruction sessions and workshops, and data research services. "Atkins kiosks" throughout the building enable users to check out their own library materials, make a study room reservation, and chat with staff. The Office of OneIT maintains its walk-up help desk in Room 140C, while the University Writing Resources Center offers some of its hours in G34. Tutorial Services conducts some tutoring sessions on the ground floor.

### Facilities

The Library features study and collaboration spaces for all needs including 50 reservable group study rooms, Graduate and Silent Study rooms, Family Friendly study rooms, and collaborative tables, seating areas, and enclosures throughout the building. The entire building features wireless access, and mobile hotspots can be checked out to use anywhere a wireless connection is needed. Library computers feature a variety of adaptive software supplemented by a dedicated room with assistive technologies next to the Information and Research Desk. Students can check out calculators, chargers, laptops dual monitors, iPads, and cameras. Atkins offers 780 loaner laptops, both PCs and Macs, at the Information and Research Desk. Students can experiment with new technologies (3D printers, cameras, etc.) from the Area 49 Desk, which supports the Visualization Lab, MakerSpace, Gaming Lab, EZ Video Studio, and other specialized spaces on the 2nd floor. A Photogrammetry Lab is located on the 1st Floor near the Information and Research Desk. Other features include device-charging stations and nap pods. Vending machines offer office supplies, coffee/beverages, and other food to supplement the offerings of the Starbucks on the ground floor. Students may bring their own beverages and food. Microwaves are available.

The Charles C. Hight Architecture Library is located on the 2nd Floor of the Storrs building, which houses the College of Arts + Architecture. The Hight Library collection includes: books, audiovisuals, periodicals, graduate thesis documents, drawings, and plans.

For more information and Library hours, visit library.charlotte.edu.

# Performing Arts

Within the College of Arts + Architecture, the Departments of Dance, Music, and Theatre serve the educational needs of students and the cultural needs of Charlotte and the University community. It is the mission of these three departments to train students in performing arts-related fields and prepare them for careers across a broad professional landscape. In addition, the departments provide numerous opportunities for non-majors to participate in the performing arts through classes, ensembles, and productions, which are open to non-majors. Together, the three departments present nearly 100 performances each year for the public and campus audiences.

## Performance Venues

As UNC Charlotte's primary facility for the arts, **Robinson Hall** is where the weeks and months of planning, programming, and behind-the-scenes work give way to presentation to live audiences. Performance in the College of Arts + Architecture is a form of research, rooted in the history of public presentation, but also projecting forward to suggest new definitions of "concert," "program," and "production." Most importantly, each performance is a shared, communal experience of audience and artists.

Public performances reinforce our role as a resource to the arts community in Charlotte. More than an entertainment venue, Robinson Hall offers a space to challenge preconceptions and to stimulate and amplify community dialogue.

Within Robinson Hall are the **Anne R. Belk Theater** and the **Black Box Theater**. The main stage space, the Anne R. Belk Theater, is a proscenium-style house which seats 340. The theater's orchestra, mezzanine, and box seating offers patrons an environment that is both intimate and elegant. The flexible Black Box Theater space can accommodate 90 to 125 patrons for a unique theatrical experience.

The Rowe Arts building houses the 360-seat **Rowe Recital Hall** and the **White Box Theater**, a classroom and lab theatre space dedicated to the development of student works and projects.

## Productions

The Departments of Dance, Music, and Theatre are the headliners at Robinson Hall, and the primary use of the performance spaces is to support the education of our students in the processes of performing arts production. In the weeks before a performance, the theater space becomes a laboratory as students hang lights, construct sets, work sound and rehearse, learning how to carry out the remarkable technical operations necessary to stage and produce a show.

For upcoming events, visit coaa.charlotte.edu/calendar.

# Police and Public Safety

The UNC Charlotte Police Department proactively patrols and responds to calls from the University community 24 hours a day, 365 days a year. The Department is comprised of over 40 sworn police officers who have successfully completed all of the trainings and certifications required to

serve as law enforcement officers in North Carolina. Patrols are conducted in marked and unmarked cars, bicycles, off-road vehicles, and on foot. Non-sworn personnel known as "Rangers" serve as extra sets of eyes and ears by patrolling and/or securing buildings and parking lots. Security personnel from the Housing and Residence Life, Atkins Library, and Halton Arena/Student Activities Center provide additional layers of safety and often work in concert with the Department.

The Department's Administrative Office is located in the Facilities Management/Police & Public Safety Building located at 9151 Cameron Boulevard across the street from Student Health. This building contains the Department's 911 Emergency Telecommunication Center which is staffed 24 hours a day that can be reached by dialing 911 from any landline on campus or 704-687-2200 from a cellular phone. Individuals in need of emergency assistance or who simply need police assistance for a non-emergency situation are strongly encouraged to call this number. Individuals who need to pick up a copy of a police report or who are searching for Lost & Found items may stop by the 1st floor lobby of this building or call the Administrative Assistant at 704-687-8300 during normal business hours.

The Department's website contains a wide variety of information pertaining to what the Department is doing to provide for a safe and secure environment on campus and how the Department is increasing its responsiveness to the needs of the campus community. Some of the items on this website include the Department's Annual Security Report, information on how individuals can reduce their chances of becoming the victim of a crime, and links to other community resources that assist the Department in protecting the campus community. The website also features information about the University's nearly 300 emergency blue light phones and how individuals can sign up to receive emergency text messages. Finally, the website allows individuals to confidentially report a crime on campus or file a commendation/complaint about a particular member of the Department. For more information about any of the aforementioned items, please visit police.charlotte.edu.

# Strategic and Success Initiatives

ssi.charlotte.edu

### Gold Rush

Gold Rush is the official welcome week program taking place in August and January each year. Welcoming both new and returning students to campus, Gold Rush is a University-wide effort to assist students in successfully transitioning to campus each year. Gold Rush aims to instill a sense of Niner Pride, teach campus traditions, and expose students to campus resources and opportunities for involvement. A full schedule of Gold Rush activities is available online at tsi.charlotte.edu.

### I Am A First-Gen Niner

I Am A First-Gen Niner is a collaborative initiative to assist First-Generation Niners on campus to feel **proud** of their First-Gen Identity and celebrate them as they pass milestones in their experience as a First-Generation Niner. What's a First-Generation Niner? A First-Generation Niner is a student who is the first in their immediate family to receive a degree from a four-year institution, this means neither their parents nor their guardians received a degree from a four-year institution. Visit iamfirst.charlotte.edu to learn more.

### Niner Nation Family

Niner Nation Family is intended to engage UNC Charlotte parents, family members, and student supporters through quality services and programs. These services and programs facilitate positive relationship-building, enhance communication between families and the University, and create a positive and collaborative environment. Our team believes that when families and supporters are informed and engaged, students benefit. Each of our programs and services strives to keep families and supports up-to-date on Niner Nation and connected to our community. Various levels of involvement are available to all parents, family members, and supporters of current students. Join us by visiting tsi.charlotte.edu.

## Military and Veteran Services

Military and Veteran Services coordinates support services for military veteran and dependent students such as assistance with University administrative support, veteran-friendly employment, peer mentoring, and veteran service organizations. In addition, the Military and Veteran Services Office is responsible for administering and certifying veterans benefits through the Veterans Administration Office. The Military and Veteran Services Office also plans events on campus in honor of our nation's servicemen, servicewomen, and their dependents and families. Visit online at mvs.charlotte.edu.

# Student Engagement

Student Engagement cultivates belonging and community by providing spaces, opportunities and resources while developing students' skills through experiential learning.

**University Honors & Awards**
University Honors & Awards recognizes undergraduate and graduate students for outstanding leadership and service to the UNC Charlotte Community. Details on award categories and the application process are available at the Honors & Awards website: studentaffairs.charlotte.edu/about-us/honors-awards.

**TEDx UNC Charlotte**
TEDxUNCCharlotte is the university's licensed TEDx event that showcases live talks from University students, faculty, staff, alumni, and Charlotte community members. Talks are delivered on stage in the spring semester and recorded and uploaded to the TEDx Youtube channel. Visit https://tedx.charlotte.edu/ for more information.

## Popp Martin Student Union

The Popp Martin Student Union serves students, faculty, staff, alumni, and visitors providing services and conveniences that members of the college community need in their daily lives and creates an environment for getting to know and understand others through formal and informal community building and programs.

It was renamed the Karen A. Popp and Demond T. Martin Student Union in 2016 to honor the dedication and service of two extraordinary alumni, Karen Popp ('80) and Demond Martin ('97).

The Popp Martin Student Union:

- Serves as an integral part of the educational mission of the university by complementing the academic experience through an extensive array of programs, student employment, and leadership development opportunities
- Is a student-centered organization that values participatory decision-making through the Student Union Advisory Board
- Provides students with meaningful employment opportunities and substantial roles in the decision-making process that affect facilities, services, policies, and programs
- Provides meeting, gathering, office, community, event, and study space
- Supports a diversified array of programming that reflects the needs of the campus community in order to enhance educational, cultural, and developmental social interaction
- Provides a welcoming environment that is the center of campus life, due to its location, programming, and general accessibility to all members of the UNC Charlotte community
- Serves as a unifying force that honors each individual and values diversity

Visit studentunion.charlotte.edu for more information.

### NinerTech

The NinerTech computer store is located inside the Popp Martin Student Union. NinerTech exists to support the student experience and the campus community in their computer and technology needs. Students may stop by NinerTech to purchase a computer, iPad, accessories, and more. NinerTech also features certified repair service for Apple and Dell devices. Visit ninertech.charlotte.edu for more information.

## Cone University Center

The Bonnie E. Cone University Center was established in 1963 to provide a university center on campus to support student life. Today, it houses many student involvement opportunities, dining services, and event spaces, plus an outdoor patio. You'll find Office of Fraternity and Sorority Life, the Office of Student Assistance and Support Services (SASS), and the Peace Haven Meditation and Reflection Space. Services include Conference Services (CRES), Niner Central, and the Main Street Market dining area. The building is alive with programs and activities in event spaces including After Hours, McKnight Hall, and the Lucas Room, as well as various meeting rooms.

The Cone University Center enriches and supports the University community by:

- Contributing to the overall development of students through informal interaction, organizational participation, leadership development, and the planning for, implementation of, and participation in diverse programs
- Providing services, training, and facilities that support University programs and participation
- Providing students with meaningful employment opportunities and substantial roles in the decision-making processes that affect facilities, services, policies and programs
- Developing and administering policies and procedures that enhance campus life while ensuring an environment that is safe

and secure
- Ensuring that the University community is informed of programs, resources, facilities and services

## Conferences, Reservations and Event Services

Conferences, Reservations & Event Services (CRES) is the University's centralized scheduling unit responsible for reserving and/or coordinating campus facilities, resources and services for events and activities. The CRES team works with groups to assess event needs and assist with the coordination of campus services such as venue configuration, personnel, audio visual, food services, parking, housing (summer).

- The Reservations and Event Services office, located in the Popp Martin Student Union room 251, assists registered student organizations and departments with space scheduling and resource support for on-campus events.
- The Conferences office, located in the Bonnie E. Cone University Center room 312, provides "one stop shop" scheduling, event planning and conference coordination for on-campus events hosted by departments (charging attendance fee) and external groups.

Visit https://cres.charlotte.edu/ for more information.

## Campus Activities Board

The Campus Activities Board (CAB) is the largest student programming organization on campus and is responsible for planning diverse, quality events for the University community. CAB offers multiple programs a week and works to enhance and unify the University community by planning social, cultural, educational, and recreational events that complement the University's academic mission.

CAB is located on the second floor of the Student Union. For more information, visit cab.charlotte.edu. Opportunities for student involvement include the following committees:

### CAB Live

As the name implies, this committee is all about live entertainment ranging from comedy, live music, variety acts, poetry slams, showcases, and other entertainment trends. This committee works hard to bring a wide-variety of diverse acts to campus.

### T.A.X.I. (Talents, Activities, eXcursions and Interests)

With this committee, anything goes! From talent shows and open mics to trips to Charlotte sporting events, this committee focuses on student talents and interests through programs and trips to explore Charlotte and other destinations.

### Daytime Niners

This committee is all about events for Niners throughout the day (8 a.m. - 5 p.m.). Daytime events consist of interactive activities, musical performances, games, or workshops.

### Special Events

This committee is all about one-time, large-scale events. These events are designed to draw large crowds. Special Events encompass Gold Rush (Week of Welcome) events, Homecoming events, speakers, major comedy shows, concerts, and more.

### Marketing

This committee is in charge of getting CAB's name and events recognized on campus. From strategic branding to co-sponsorships to individual event advertising; from print to social media, Marketing and their Event Staff Street Team help make sure that UNC Charlotte students know about CAB.

## Student Niner Media Advising & Support

Student Niner Media Advising & Support provides guidance to students in several areas of media. Student organizations housed in this department serve the campus community with forums for free exchange of ideas and dissemination of news and information. Students can gain competency in career development in a unique co-curricular setting. From writing to reporting to marketing and podcasting, Student Niner Media Advising & Support offers UNC Charlotte students a unique experience in the fast-paced world of media.

### Student Media Board

The Student Niner Media Board is the governing body for Student Niner Media and is comprised of student representatives. Media Board is responsible for approving policies, governing documents, electing department heads, and approving the annual budget.

### Niner Times

*Niner Times* is UNC Charlotte's bi-weekly student newspaper published on Tuesdays. It features news, entertainment, sports, and more. The students also maintain Ninertimes.com which features breaking news and exclusive content. The Niner Times also produces multimedia content, including podcasts and video. The Niner Times, ninertimes.com, and *Charlotte Current* provide journalism experience to more than 140 students.

### Media Marketing

The media marketing department at Student Niner Media is responsible for advertising, circulation, and promotions. Students can work in areas including layout, design, sales, and promotions. Media Marketing offers real world experience for business, marketing, and communication careers.

### Nova

*Nova* is the nationally recognized literary-arts magazine published by students interested in the arts. Artists from around the world submit poems, short stories, visual art, and film to be included in the publication. The magazine is published in April. Visit Nova online at novacharlotte.com.

### Midas Magazine

*Midas Magazine* is Student Niner Media's newest publication, which was

started in December 2020. The cultural and entertainment magazine is published once a semester, in December and April, and offers a wide variety of content. Students can learn skills in writing, editing, graphic design, or photography when working with *Midas*. Visit Midas at midasmagazine.com.

**Internships**
Niner Media interns can earn academic credit and receive "hands-on" media experience in writing, design, photography, advertising, desktop publishing, and management. Internships are offered in collaboration with the Department of Communication Studies.

For more information about how to get involved with Student Niner Media, contact the office or visit media.charlotte.edu. Offices are located in the lower level of the Popp Martin Student Union.

# Leadership & Community Engagement

Leadership & Community Engagement empowers students to lead, serve, and live with purpose through transformative leadership development, service-learning, and mentoring programs. Students enhance their skills through a variety of cohort-based experiences and peer-led workshops. Beyond the traditional setting, the office facilitates meaningful local and regional community service, while offering unique mentoring connections designed to support long-term personal and professional growth.

**Academic Certificate in Leadership Studies**
An 18-credit hour concentration in interdisciplinary leadership studies is offered, leading to the Undergraduate Certificate in Leadership Studies awarded at graduation from UNC Charlotte.

**Alternative Service Breaks**
Alternative Service Breaks (ASB) are unique volunteer experiences during which students forgo their traditional spring and/or fall break activities and engage in direct service in a community outside of their own.

**Emerging Leaders**
The Emerging Leaders program provides a cohort leadership experience for freshmen (applications are available early Fall semester). Participants attend weekly workshops, an overnight retreat, and are guided by a peer mentor.

**Executive Leadership Program**
The Executive Leadership program, open to students with Senior standing, focuses on the transition from undergraduate leadership to leadership as a new professional.

**Individual and Group Consultation**
Assistance with applications, interviewing, leadership issues and programmatic needs are available.

**LEAD Team**
Students in the LEAD team are trained and available to make presentations on a wide variety of leadership topics.

**LeaderShape Institute**
The Institute is a leadership program for established leaders with a focus on vision and leading with integrity.

**Leadership Fellows**
Leadership Fellows is a Fall semester cohort leadership experience for students in sophomore, junior, and non-graduating senior standing (applications are available in the spring semester).

**Leadership Journey Learning Community**
A one-year residential program is offered to first-year students who have an interest in developing or building leadership skills and abilities.

**Leadership, Communication, and Group Dynamics**
A 3-credit hour leadership theory course (COMM 3135) is taught on leadership, communication, and group dynamics.

**Leadership, Service and Ethics**
A 3-credit hour course in communication studies (COMM 3136) is offered for students interested in developing a leadership framework and obtaining academic credit.

**PILOT (Programs In Leadership and Organizational Training)**
PILOT is an individualized leadership program that provides an opportunity for leadership certification through this self-paced program.

**SAFE (Students Achieving First-Year Excellence)**
SAFE is a first-year peer-mentoring leadership program designed to support students' successful transition to UNC Charlotte. The program fosters personal growth and academic achievement, ensuring students are equipped with the tools and connections necessary for long-term success at Charlotte.

**SERVE TEAM**
SERVE TEAM creates community service opportunities through connections with local non-profit agencies as well as campus based service and volunteer opportunities.

# Fraternity and Sorority Life

Fraternity and Sorority Life at UNC Charlotte consists of over 40 fraternities and sororities founded upon the principles of scholarship, leadership, community service, and the formation of lifelong friendships through brotherhood/sisterhood. Fraternities and sororities uphold these fundamental values in their pursuit of collegiate excellence, enabling all members to achieve their personal best. Fraternity and

Sorority Life provides students with an opportunity to be a part of a large group with many diverse characteristics while sharing a common goal. The fraternities and sororities work together to provide a quality experience for anyone who joins via service projects, educational programs, and social activities. The experience the student gains from organizing and motivating people, planning and implementing projects and learning to give back what one has received can be an invaluable part of a college education. Membership recruitment for a fraternity or sorority primarily begins with each new semester. However, some organizations hold recruitment meetings throughout the year. Some of the many programs within Fraternity and Sorority Life include: the Harm Reduction Symposium, Greek Weekend, Airband, Annual Stroll Competition, and New Member Convocation. Visit online at greeklife.charlotte.edu.

## Venture Outdoor Leadership

Venture offers a variety of outdoor adventure and experiential learning trips, programs and workshops. Activities include trips lasting from 1-21 days in a variety of outdoor endeavors from backpacking to rock climbing to kayaking and whitewater rafting (to name only a few). Venture also hosts and facilitates many programs on its on-campus Team Challenge Course, High Team Challenge Course, and indoor climbing wall. Venture programs are modeled on the Outward Bound philosophy and are designed to facilitate individual growth through physical challenge, group interaction, and personal reflection - all while having fun. Students involved in VOLTAGE (Venture Outdoor Leadership Training and Group Experience) have the opportunity to be trained as student leaders on Venture's trips and programs. Venture also operates Venture Bound, an opportunity for students to connect with the University and other students in meaningful ways prior to their first semester.

Venture offers courses for academic credit through the Department of Applied Physiology, Health, and Clinical Sciences. Each semester, a variety of one-, two-, and three-credit hour outdoor activity courses are offered, including courses such as: Introduction to Adventure Education and Leadership, Rock Climbing, Challenge Course Activities, Rock Site Management, Wilderness Experience, Wilderness Trip Leading, and Challenge Course Facilitation. Students may combine specific courses to complete a Minor in Outdoor Adventure Leadership. For additional details, see the Department of Applied Physiology, Health, and Clinical Sciences section of this *Catalog* and visit venture.charlotte.edu/academics.

For more information about Venture, please visit venture.charlotte.edu.

## Student Government Association

The Student Government Association (SGA) advocates for the issues, needs, and interests of the student body. Many students want to make their campus a better place while they are here and also find their work in student government a useful background for later public service. The leaders of student government are committed to representing the student body and to developing students' awareness of the many facets of campus life, working with the University's administration in advancing the needs and interests of students. All enrolled students, both full- and part-time, are eligible to participate in student government. Visit online at sga.charlotte.edu.

The Student Government Association is comprised of:

**Executive Branch**
The Executive Branch is comprised of the Student Body President, Student Body Vice President, Chief of Staff, Class Presidents, and nominated officers. This branch's main roles are to carry out the President's platform goals, discuss and propose policies for the betterment of the Student Government Association, and prioritize students' interests. The Student Body President serves as a member of the UNC Charlotte Board of Trustees.

**Senate**
The Student Senate is responsible for promoting the overall well-being of the Student Body through advocating for the interests of students through engaging with University administrators, legislation supporting student needs, and communicating with the student body. The Senate convenes in the General Assembly every Thursday when classes are in session.

**Judicial Branch**
The Judicial Branch is composed of student panel members led by the

Chief Justice. The branch includes the Chief Justice, Lt. Chief Justice, and 5 other student justices. They are responsible for investigating and reviewing violations of the Student Body Constitution, and the Student Government Bylaws, and reviewing constitutionality of Legislative Branch and Executive Branch actions.

## Student Involvement

Student Involvement supports students' engagement with campus through organizations and special events. UNC Charlotte has over 450 student organizations that enhance the academic experience of UNC Charlotte students and provide opportunities to get involved. The categories of student organizations include: academic (pre-professional), fraternities and sororities, graduate organizations, honor societies, interest, performance, service, political, religious, multicultural, international, sport clubs, and media/publication. There are many benefits to joining a student organization, including making new friends, developing new skills and abilities, working collaboratively as part of a team, learning to set and achieve goals, leadership opportunities, as well as having fun. Students may also start a new student organization if there is not one already on campus that matches their interests. Contact Student Involvement with questions about resources available and how to get connected. Contact information and a current listing of all registered student organizations is available online at studentorgs.charlotte.edu.

Student Involvement also hosts special events such as Homecoming, Haunted Union, Light Up the Lake, and Late Night Breakfast that build spirit and tradition for the Niner Nation.

# Sustainability

sustainability.charlotte.edu

The Office of Sustainability works with faculty, staff and students to measure progress, propose solutions, initiate changes, develop skills, and share experiences that contribute to environmental, social and financial dimensions of sustainability.

The Office of Sustainability works to:

- Lead initiatives in zero waste, responsible purchasing, and becoming a carbon-neutral campus by 2050
- Partner on events to raise awareness of campus and community issues, programs and solutions, including Campus Sustainability Month in Fall and Earth Month in Spring
- Support students, student organizations, and departments that propose projects to the Charlotte Green Initiative at cgi.charlotte.edu
- Help faculty address sustainability topics in courses, through workshops, presentations, tours and initiatives to use campus as a learning lab
- Coordinate research on campus operations that lead to lower environmental impacts, improved social outcomes, and reduced costs
- Measure and report our progress on sustainability goals
- Support staff awareness and performance through programs including Sustainability Ambassadors and Green Workplace

To learn more about the history, priorities, progress, resources, and opportunities on campus, visit sustainability.charlotte.edu.

# Technology

OneIT.charlotte.edu

The Office of OneIT provides the University with IT services and manages campus technologies that support teaching, learning, research, and business processes.

Services include:

- Providing IT help at your fingertips: Visit help.charlotte.edu or call 704-687-5500
- Connecting Niners to University software and beyond at software.charlotte.edu
- Administering secure "eduroam" Wi-Fi for all educational buildings and common campus areas
- Maintaining the University's extensive FAQ library at faq.charlotte.edu
- Suggesting hardware recommendations for the University laptop requirement at oneit.charlotte.edu/laptop
- Managing University computers, operating systems, software, voice and data networks and centralized servers
- Overseeing core administrative systems such as Gmail, Banner, Canvas, and My UNC Charlotte
- Supporting the University's web presence

For a complete list of available IT resources, current IT news, or more about the Office of OneIT, visit oneit.charlotte.edu.

# University Advancement

advancement.charlotte.edu

The Division of University Advancement at UNC Charlotte manages the campus' external environment by leading the University's communications' strategies and by building strong, progressive relationships between the University and its alumni, students, faculty and staff, donors, friends, corporate partners and elected officials to help advance UNC Charlotte's strategic initiatives.

The departments within University Advancement include Advancement Operations, Alumni Affairs, Community Relations, Constituent Relations, University Communications, University Development, and University Events.

## Advancement Operations

University Advancement Operations provides infrastructure, information, and services to support the University's fundraising and engagement activities; to ensure the responsible and ethical management of our alumni and donor database and gift systems; to execute purposeful programs and services to alumni, students, parents, and friends; and to maintain all administrative functions of the Division of University Advancement.

## Alumni Affairs

Alumni Affairs develops, coordinates and promotes programs and events for UNC Charlotte alumni, 150,000 strong; including alumni groups and regional networks, award programs, Homecoming and AlumNiner Weekend. Alumni Affairs staff also manages two event venues on campus – the Harris Alumni Center at Johnson Glen and the Hauser Alumni Pavilion, the site of pre-game alumni tailgates.

The UNC Charlotte Alumni Association works to promote a close relationship between alumni and the University by fostering a spirit of loyalty and fraternity among UNC Charlotte graduates, former students, and friends, and by encouraging alumni to become personally involved in and financially support University activities. The Board of Directors of the Alumni Association is comprised of alumni who represent the general body of alumni and at least one of each of the seven academic colleges of the University and the graduate school, so much as possible.

## Community Relations

Community Relations works to strengthen the connection between UNC Charlotte and the greater Charlotte community through intentional and meaningful partnerships with key cultural, educational, social and civic organizations. This is accomplished through targeted outreach initiatives and projects that encourage faculty and staff to use their time and talents in support of the greater Charlotte community. The Community Relations team also coordinates the Community Engagement Orientation for new faculty and senior staff, as well as various community panels.

## Constituent Relations

Constituent Relations fosters, supports, and advances UNC Charlotte's relationships with state, regional, and local government officials and agencies, as well as with the business and corporate community, strengthening the University in its mission to deliver on its promise as the region's premier urban research university. From welcoming government representatives to campus to providing information and access, Constituent Relations forges the link between UNC Charlotte and our public representatives.

Additionally, the unit is responsible for enhancing and promoting a strong, effective relationship with the UNC Board of Governors, as well as with business advocates including the Charlotte Regional Business Alliance. Constituent Relations has co-led transformational, interdisciplinary efforts, including the implementation of light rail onto campus, and engagement with the 2012 and 2020 presidential nominating conventions, ensuring unique, informative opportunities for our students, faculty, staff, and community.

## University Communications

The mission of University Communications is to elevate the brand reputation of the University by shaping the UNC Charlotte story through strategic communications to internal and external stakeholders. The University Communications team is composed of media relations and reputation management, creative services, internal and operational communications, editorial services, marketing, broadcast and digital media, social media, and web/email communications. The team works with a network of college communicators in the divisions and colleges to provide strategic communications support and guidance to further the Institution's mission.

## University Development

The Office of University Development -- composed of major gifts, leadership gifts, annual giving, and planned giving -- builds philanthropic relationships that engage UNC Charlotte alumni, donors, students, faculty, staff, and friends in supporting the University's mission. Thanks to the generosity of UNC Charlotte's donors, University Development campaigns, including #NinerNationGives and the largest in University history - Exponential: The Campaign for UNC Charlotte, truly transform the University by providing scholarships and resources to our students, research opportunities to our faculty, and reaffirming our position as an economic engine for the Charlotte region.

### The Foundation of the University of North Carolina at Charlotte, Inc.

Founded in 1960, the UNC Charlotte Foundation is a 501(c)(3) non-profit organization whose purpose is to support the educational mission of UNC Charlotte. Its work centers on engaging the community, soliciting private donations, establishing scholarships, and managing property and other assets to benefit the students, faculty, and staff of UNC Charlotte. An elected Board of Directors, composed of no more than 45 volunteers, governs the Foundation.

University employees perform the fund-raising and business functions of the Foundation. In exchange, the Foundation transfers funds to UNC Charlotte to enhance the institution's teaching, research, and service missions. The Foundation endowment is approximately $131 million, and the total University endowment is more than $210.2 million.

## University Events

University Events initiates, plans, and implements strategic events and programs that build relationships and strengthen ties to UNC Charlotte. University Events plans and executes all events hosted by the Chancellor including receptions at the Chancellor's residence (Bissell House), groundbreakings and dedication ceremonies, donor events, award ceremonies, and lectures.

University Events oversee the UNC Charlotte Civic Series presented by Bank of America. The series brings nationally recognized speakers to UNC Charlotte and the greater Charlotte community for thought-provoking conversations throughout the year. Featured in the series are three annual events: The Chancellor's Speaker Series, the Barnhardt Seminar on Ethics and the World of Business and the TIAA Lecture Series.

University Events is also responsible for the planning and execution of the University's annual commencement ceremonies. The office oversees every aspect of planning surrounding commencement, from the tickets to the logistics and execution of each ceremony.

# Faculty Directory

# Faculty

***(Note: The year in parentheses represents the year of appointment)***

**Gaber, Sharon L. (2020)**; *Chancellor; Professor, Department of Earth, Environmental, and Geographical Sciences*; A.B., Occidental College; MPL, University of Southern California; Ph.D., Cornell University

**Troyer, Jennifer (1999)**; *Provost and Vice Chancellor for Academic Affairs, Belk College of Business; Professor, Department of Economics*; B.A., Memphis State University; M.S., Florida State University; Ph.D., Florida State University

**Putman, S. Michael (2011)**; *Associate Provost for Academic Programs and Space, Department of Reading and Elementary Education;* B.A., State University of New York College at Geneseo; M.A.Ed., Ball State University; Ph.D., Ball State University

**Abdulrahman, Abdulwasiu Ajibola (2024)**; *Assistant Professor, Department of Africana Studies;* B.A., University of Ilorin, Nigeria; M.A., University of Ilorin, Nigeria; Ph.D., University of Mississippi

**Abel, Kirsten (2023)**; *Clinical Assistant Professor, Department of Reading and Elementary Education;* B.S., Westfield State University; M.Ed., Framingham State College; Ed.D., University of North Carolina at Wilmington

**Abrams, Lyndon P. (2001)**; *Associate Professor, Department of Counseling;* B.S., Charleston Southern University; M.Ed., Clemson University; Ph.D., Texas A&M University-Commerce

**Abu El Ela, Ahmed (2023)**; *Teaching Assistant Professor, Department of Civil and Environmental Engineering;* B.S., University of Zagazig; M.S., University of Zagazig; Ph.D., University of Missouri at Columbia

**Abhyankar, Rohini (2025)**; *Teaching Assistant Professor, Office of Student Development and Success, The William States Lee College of Engineering;* B.S., Delhi University, India; M.S., Syracuse University; M.B.A., University of Phoenix; Ph.D., Arizona State University

**Adams, L. Dean (2013)**; *Senior Associate Dean for Performing Arts, College of Arts + Architecture; Professor, Department of Theatre*; B.A., Tufts University; M.A., University of Maryland; M.F.A., Florida State University

**Afonin, Kirill (2015)**; *Professor, Department of Chemistry;* M.S., Saint Petersburg State Polytechnic University; Ph.D., Bowling Green State University

**Adams, Nicole (2024)**; *Assistant Professor, Department of Child Development and Special Education;* B.A., University of North Carolina at Asheville; M.Ed., Vanderbilt University; Ph.D., University of Illinois

**Ageenko, Ilieva (2024)**; *Senior Lecturer, School of Data Science;* M.S., State University of Management, Moscow, Russia; Ph.D., Taras Shevchenko University of Kiev, Ukraine

**Agarwal, Ankit (45880)**; *Assistant Professor, Department of Engineering Technology & Construction Management;* Ph.D., Indian Institute of Technology, India; M.Tech., Delhi Technological University, Delhi, India; B.Tech., Guru Gobind Singh Indraprasthra University, Delhi, India

**Aggarwal, Ishwar D. (2011)**; *Research Professor, Ishwar Aggarwal Department of Physics and Optical Science;* M.C.E., The Catholic University of America; Ph.D., The Catholic University of America

**Agosta, Rebecca (2013)**; *Lecturer, Department of Writing, Rhetoric, and Digital Studies;* B.S.Ed., Appalachian State University; M.A., University of North Carolina at Charlotte

**Ahmed, Dewan (2013)**; *Teaching Assistant Professor, Department of Computer Science;* B.S., Bangladesh University of Engineering and Technology; M.S., Bangladesh University of Engineering and Technology; Ph.D., University of Ottawa

**Ajazi, Elizabeth (2014)**; *Lecturer, Department of Mathematics and Statistics;* B.S., University of North Carolina at Charlotte; M.S., University of North Carolina at Charlotte

**Akella, Srinivas (2009)**; *Professor, Department of Computer Science;* B.Tech., Indian Institute of Technology, India; M.S., Carnegie Mellon University; Ph.D., Carnegie Mellon University

**Alam, Minhaj Nur (44788)**; *Assistant Professor, Department of Electrical and Computer Engineering;* B.S., Islamic University of Technology; M.S., Islamic University of Technology; Ph.D., University of Illinois - Chicago

**Alexander, Apryl (44788)**; *Professor, Department of Health Management and Policy;* B.S., Virginia Tech University; M.S., Radford University; Ph.D., Florida Institute of Technology

**Alhasan, Dana (2023)**; *Assistant Professor, Department of Epidemiology and Community Health;* B.A., University of Texas at Austin; M.P.H., University of Texas Health Science Center; Ph.D., University of South Carolina

**Aliaga-Buchenau, Ana-Isabel (2002)**; *Department Chair and Professor, Department of Languages, Cultures, and Translation;* B.A., Georg-August Universitat Gottingen; M.A., University of North Carolina at Chapel Hill; Ph.D., University of North Carolina at Chapel Hill

**Allan, Craig J. (1992)**; *Professor, Department of Earth, Environmental, and Geographical Sciences;* B.Sc., University of Manitoba; M.Sc., Trent University; Ph.D., York University

**Alkan Gokmen, Hatice Pelin (2024)**; *Lecturer, David R. Ravin School of Architecture* Istanbul Technical University, Turkey Scuoloa Universitaria Professionale della Switzerland Naba Domus Academy, Milan, Italy; M.S., Kadir Has University, Istanbul, Turkey

**Almakhadmeh, Wala'a (2023)**; *Teaching Assistant Professor, Department of Civil and Environmental Engineering;* B.S., Jordan University of Science and Technology; M.S., Concordia University; Ph.D., Concordia University

**Al-Shaer, Ehab (2009)**; *Professor, Department of Software and Information Systems;* B.S., King Fahad University; M.S., Northeastern University; Ph.D., Old Dominion University

**Al-Shamat, Hania Mounir (44788)**; *Assistant Teaching Professor, Department of Political Science and Public Administration;* B.A., American University of Beirut, Lebanon; M.A., American University of Beirut, Lebanon; Ph.D., University of Southern California

**Alshareefy, Rajwan (45880)**; *Assistant Teaching Professor, Department of Writing, Rhetoric, and Digital Studies;* Ph.D., Indiana University of Pennsylvania; M.A., Indiana University of Pennsylvania; B.Ed., University of Babylon, Iraq

**Alston, Daniel (2016)**; *Associate Professor, Department of Reading and Elementary Education;* B.S., University of South Carolina; M.A.T., University of South Carolina; Ph.D., Clemson University

**Alterowitz, Gretchen (2009)**; *Department Chair and Professor, Department of Dance;* B.A., University of Montana; M.F.A., University of Iowa

**Alvis, Sid (2022)**; *Professor, Office of Student Development and Success, The William States Lee College of Engineering;* B.S., Virginia Military Institute; M.B.A., Northern Illinois University

**Amburgey, James E. (2005)**; *Associate Professor, Department of Civil and Environmental Engineering;* B.S.C.E., University of North Carolina at Charlotte; M.S., University of North Carolina at Charlotte; Ph.D., Georgia Institute of Technology

**Amengonu, Yawo H. (2015)**; *Visiting Lecturer, Department of Electrical and Computer Engineering;* B.S.E.E., University of North Carolina at Charlotte; M.S.E.E., University of North Carolina at Charlotte

**Amin, Takiyah N. (2011)**; *Assistant Professor, Department of Dance;* B.A., State University of New York at Buffalo; M.F.A., Virginia Polytechnic Institute and State University; Ph.D., Temple University

**Ancrum, Terrence C. (44935)**; *Visiting Lecturer, Department of Mathematics and Statistics;* B.A., University of North Carolina at Charlotte; M.A.T., University of North Carolina at Charlotte

**Anderson, Brittany (2020)**; *Associate Professor, Department of Middle, Secondary, and K-12 Education;* B.S.Ed., Baylor University; M.Ed., University of North Texas; Ph.D., University of Georgia

**Anderson, Heather T. (2007)**; *Lecturer, School of Nursing;* A.A., Gardner-Webb University; B.S.N., Gardner-Webb University; M.S.N., Gardner-Webb University

**Anderson, Kelly (2000)**; *Professor, Department of Special Education and Child Development;* B.S., Drake University; M.S., Drake University; Ph.D., University of North Carolina at Greensboro

**Anderson, Nadia (2016)**; *Associate Professor, David R. Ravin School of Architecture;* B.Arch., Yale University; M.Arch., University of Pennsylvania

**Andrés, Benny J. (2007)**; *Associate Professor, Department of History;* B.A., San Diego State University; M.A., University of New Mexico; Ph.D., University of New Mexico

**Arafa, Ahmed (2019)**; *Associate Professor, Department of Electrical and Computer Engineering;* B.S., Alexandria University; M.S., University of Maryland, College Park; Ph.D., University of Maryland, College Park

**Arif, Ahmed A. (2007)**; *Professor, Department of Epidemiology and Community Health;* B.S., Sindh Medical College; M.S., Western Kentucky University; Ph.D., University of Texas at Houston

**Armour, Jake (2005)**; *Lecturer, Department of Earth, Environmental, and Geographical Sciences;* B.S., University of New Mexico; M.S., University of New Mexico

**Armstrong, Laura M. (2013)**; *Associate Professor, Department of Psychological Science;* B.S., Brown University; M.S., Pennsylvania State University; Ph.D., Pennsylvania State University

**Armstrong, Melinda (2020)**; *Lecturer, School of Nursing;* B.A., University of North Carolina at Charlotte; B.S.N., University of North Carolina at Charlotte; M.S.N., University of North Carolina at Charlotte

**Arnold, Denis G. (2008)**; *Surtman Distinguished Scholar in Business Ethics; and Professor, Department of Management;* B.S., Lewis and Clark College; M.A., University of Minnesota; Ph.D., University of Minnesota

**Arreola, Brian K. (2009)**; *Professor, Department of Music;* B.M., Saint Olaf College; M.M., Indiana University; Ph.D., Indiana University

**Arrigo, Bruce A. (2001)**; *Professor, Department of Criminal Justice and Criminology;* B.A., Saint Joseph's University; M.A., Duquesne University; Ph.D., Pennsylvania State University

**Arthur, Susan T. (2006)**; *Associate Professor, Department of Applied Physiology, Health, and Clinical Sciences;* B.S., University of Toledo, Ohio; M.S., University of Toledo, Ohio; Ph.D., University of Toledo, Ohio

**Asala, Kathryn (2007)**; *Teaching Professor, Department of Chemistry;* B.S, Truman State University; Ph.D., Miami University

**Ashby, Jamie (2024)**; *MA Fellow, Department of Languages, Cultures, and Translation;* B.A., University of North Carolina at Charlotte; M.A., University of North Carolina at Charlotte; M.A., University of North Carolina at Charlotte

**Astratov, Vasily (2002)**; *Professor, Ishwar Aggarwal Department of Physics and Optical Science;* Dipl., St. Petersburg State University; Ph.D., Ioffe Physical-Technical Institute

**Athanasopoulou, Anna (2013)**; *Lecturer, Department of Mathematics and Statistics;* B.S., Aristotle University of Thessaloniki; M.A., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Atkinson, Mary L. (2013)**; *Associate Professor, Department of Political Science and Public Administration;* B.A., Guilford College; M.A., The American University; Ph.D., University of North Carolina at Chapel Hill

**Auten, Anna E. (2017)**; *Assistant Professor and Health and Human Services Librarian, J. Murrey Atkins Library;* B.S., Tulane University; M.A., University of Florida; M.L.I.S., Florida State University

**Avrin, Joel D. (1984)**; *Professor, Department of Mathematics and Statistics;* A.B., University of California, Berkeley; M.A., University of California, Berkeley; Ph.D., University of California, Berkeley

**Azarbayjani, Mona (2010)**; *Professor, Department of Art and Art History;* B.S., Iran University of Science and Technology; M.Arch, Iran University of Science and Technology; Ph.D., University of Illinois at Campaign

**Azevedo, Lauren (2023)**; *Associate Professor, Department of Political Science and Public Administration;* B.A., Mercer University; M.P.A., Georgia Southern University; Ph.D., University of Central Florida

**Bachman, Hunter (2023)**; *Assistant Teaching Professor, Department of Mechanical Engineering and Engineering Science;* B.S., University of Delaware; M.S., University of Delaware; Ph.D., Duke University

**Baez-Rivera, Yamilka I. (2014)**; *Teaching Assistant Professor, Department of Engineering Technology and Construction Management;* B.S.E.E., University of Puerto Rico; M.S.E.E., University of Puerto Rico; Ph.D., Mississippi State University

**Bahamon, Julio C. (2016)**; *Teaching Assistant Professor, Department of Computer Science;* B.S., Texas A&M University; M.S., Florida State University; Ph.D., North Carolina State University

**Bahin, Riley (2024)**; *Visiting Lecturer, Department of Music;* B.M., University of Michigan; M.M., University of Georgia; D.M.A., University of Colorado at Boulder

**Baker, Alyah (2024)**; *Assistant Professor, Department of Dance;* B.A., Duke University; M.F.A., Duke University

**Baker, Debra D. (2003)**; *Senior Lecturer, Department of Communication Studies;* B.A., University of North Carolina at Charlotte; M.A., University of North Carolina at Greensboro

**Balcos, E. E. (2005)**; *Professor, Department of Dance;* B.A., The Colorado College; M.F.A., University of Iowa

**Balmer, Jeffrey D. (2006)**; *Associate Professor, David R. Ravin School of Architecture;* B.E.S., University of Waterloo; B.Arch., University of Waterloo; M.Arch, Iowa State University

**Balog, Valerie G. (2005)**; *Clinical Assistant Professor, Department of Counseling;* B.S., John Carroll University; M.A., John Carroll University; Ph.D., Kent State University

**Balteanu, Ludmila (2022)**; *Lecturer, Department of Health Management and Policy;* M.D. Diploma, State University of Medicine and Pharmacy, Testemitanu, Chisinau Moldova; Physician Anesthesiology Certification, Oncology Institute of Republic Moldova; M.P.H., University of North Carolina at Charlotte

**Banerjee, Enika (2018)**; *Lecturer, Department of Languages, Cultures, and Translation;* B.A., Sophia University, Japan; M.A., University of London, England

**Banks, George C. (2015)**; *Department Chair and Professor, Department of Management;* B.A., College of William & Mary; M.A., University of New Haven; Ph.D., Virginia Commonwealth University

**Banks, Philwyna (2024)**; *Lecturer, School of Nursing;* A.D.N., Cabarrus College of Health Science; B.S.N., University of North Carolina at Chapel Hill; M.S.N., University of North Carolina at Chapel Hill; D.N.P., University of North Carolina at Charlotte

**Banks, Sherronda (2023)**; *Lecturer, School of Social Work;* B.S., Old Dominion University; M.S.W., Norfolk State University; D.S.W., Simmons University

**Barfield, Auguste (2022)**; *Department Chair and Professor, Department of Applied Physiology, Health, and Clinical Sciences;* B.A., University of North Carolina at Chapel Hill; M.A., Appalachian State University; D.A., Middle Tennessee State University

**Barnes, Meghan (2017)**; *Associate Professor, Department of English;* B.A., University of North Carolina at Chapel Hill; M.A.T., University of North Carolina at Chapel Hill; Ph.D., University of Georgia

**Barr-Anderson, Daheia (2024)**; *Colvard Distinguished Professor, Department of Applied Physiology, Health, and Clinical Sciences;* B.S., Winthrop University; M.S.P.H., University of South Carolina; Ph.D., University of Maryland

**Barto, Jeffrey (1992)**; *Lecturer, Department of Applied Physiology, Health, and Clinical Sciences;* B.S., Slippery Rock University; M.Ed., University of Pittsburgh; Ph.D., University of Pittsburgh

**Basalik, Debra (2024)**; *Assistant Teaching Professor, Department of Communication Studies;* B.A., University of North Carolina at Charlotte; Graduate Certificate, University of North Carolina at Charlotte; M.A., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Basinger, Erin (2016)**; *Professor, Department of Communication Studies;* B.A., Samford University; M.A., University of Georgia; Ph.D., University of Illinois at Urbana-Champaign

**Basu, Balaka (2013)**; *Associate Professor, Department of English;* B.A., Cornell University; Ph.D., City University of New York

**Bates, Tonya C. (2010)**; *Lecturer, Department of Biological Sciences;* B.A., University of North Carolina at Charlotte; B.S., University of North Carolina at Charlotte; M.S., University of North Carolina at Charlotte

**Batista, José M. (2003)**; *Associate Professor, Department of Languages, Cultures, and Translation;* B.A., Manhattan College; M.A., University of Georgia; Ph.D., University of Georgia

**Batista Pereira, Frederico (2016)**; *Associate Professor, Department of Political Science and Public Administration;* B.A., Federal University of Minas Gerais, Brazil; M.A., Federal University of Minas Gerais, Brazil; Ph.D., Vanderbilt University

**Beach, Kristen D. (2014)**; *Professor, Department of Child Development and Special Education;* B.A., University of California, Los Angeles; M.A., Loyola Maramount University; Ph.D., University of California, Riverside

**Beaman, Jonathan M. (2014)**; *Lecturer, Department of Mechanical Engineering and Engineering Science;* B.S.M.E., University of North Carolina at Charlotte; M.S.M.E., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Beem, Randi E. (2018)**; *Assistant Professor and Instruction Librarian/Archivist, J. Murrey Atkins Library;* B.A., Saint Mary's College; M.L.S., Indiana University Bloomington

**Beete, Deborah Ann D. (2018)**; *Lecturer, Department of Epidemiology and Community Health;* B.A., Columbia College; M.Div., McCormick Theological Seminary; M.P.H., Columbia University

**Bejger, Christopher M. (2015)**; *Associate Professor, Department of Chemistry;* B.S., University of Oregon; Ph.D., University of Texas at Austin

**Benedict, Aileen (2024)**; *Visiting Lecturer, Department of Computer Science;* B.S., University of North Carolina at Charlotte; M.S., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Benjamin, Michael (2020)**; *Teaching Assistant Professor, Department of Engineering Technology and Construction Management;* B.S., South Dakota State University; M.S., University of Cincinnati; M.S., University of Cincinnati; Ph.D., University of Cincinnati

**Bennett, Jeanette M. (2012)**; *Professor, Department of Psychological Science;* B.A., Gannon University; B.S., Gannon University; M.S., Pennsylvania State University; Ph.D., Pennsylvania State University

**Beorkrem, Christopher J. (2005)**; *Associate Professor, David R. Ravin School of Architecture;* B.Arch., Iowa State University; M.S., Columbia University

**Berez, Jaime (2023)**; *Assistant Professor, Department of Mechanical Engineering and Engineering Science;* B.S., University of Maryland at College Park; M.S., Georgia Institute of Technology; Ph.D., Georgia Institute of Technology

**Berg-Saether, Bjarne (2024)**; *Clinical Assistant Professor of BISOM, Department of Business Information Systems/Operations;* B.S., Appalachian State University; M.S., East Carolina University; D.B.A., University of Sarasota; Ph.D., University of North Carolina at Charlotte; Certificate, Harvard University

**Bergamaschi Ganapini, Marianna (45880)**; *Associate Professor, Department of Philosophy;* Ph.D., Johns Hopkins University

**Bergmann, Malena (2003)**; *Lecturer, Department of Art and Art History;* B.F.A., University of North Carolina at Greensboro; M.F.A., University of Florida

**Berman, Elise (2012)**; *Associate Professor, Department of Anthropology;* B.A., Dartmouth College; M.A., The University of Chicago; Ph.D., The University of Chicago

**Berzins, Tiffany (2024)**; *Assistant Teaching Professor, Department of Psychological Science;* B.A., Southeastern University; M.S., University of Texas at San Antonio; Ph.D., University of Texas at San Antonio

**Bess, Marcus (2013)**; *Assistant Professor and Instruction Librarian, J. Murrey Atkins Library;* B.A., University of North Carolina at Charlotte; M.S., North Carolina Central University

**Biller, Justin B. (2018)**; *Lecturer, Department of Engineering Technology and Construction Management;* B.S.E.T., Old Dominion University; M.S., California Polytechnic State University

**Billings, Stephen (2008)**; *Associate Professor, Department of Political Science and Public Administration;* B.A., Georgetown University; M.A., University of North Carolina at Chapel Hill; M.A., University of Colorado at Boulder; Ph.D., University of Colorado at Boulder

**Bin Abdul Baten, Redwan (2022)**; *Assistant Professor, Department of Health Management and Policy;* B.D.S., University of Dhaka, Bangladesh; M.P.H., North South University, Bangladesh; Ph.D., University of Iowa

**Binder, Amanda H. (2012)**; *Assistant Professor and Special Sciences and History Librarian, J. Murrey Atkins Library;* B.A., Bard College; M.S., University of Illinois at Urbana-Champaign

**Binns, Ian (2011)**; *Associate Professor, Department of Reading and Elementary Education;* B.S., North Carolina State University; M.Ed., North Carolina State University; Ph.D., University of Virginia

**Birdsong, Sarah (2016)**; *Visiting Lecturer, Department of Mathematics and Statistics;* B.S., Mars Hill College; M.S., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Bishop, Nancy (2016)**; *Lecturer, Department of Art and Art History;* B.F.A., Kansas City Art Institute; M.A., University of Kansas; Ph.D., University of Iowa

**Bishwal, Jaya P. (2005)**; *Professor, Department of Mathematics and Statistics;* B.S., Sambalpur University; M.S., Sambalpur University; M.Phil., Sambalpur University; Ph.D., Sambalpur University

**Bjerregaard, Beth E. (1992)**; *Professor, Department of Criminal Justice and Criminology;* B.S., Kent State University; M.S., Kent State University; Ph.D., State University of New York at Albany

**Black, Jason E. (2016)**; *Professor, Department of Communication Studies;* B.A., Florida State University; M.A., Wake Forest University; Ph.D., University of Maryland, College Park

**Black, Theresa A. (44788)**; *Visiting Lecturer, Department of Chemistry;* B.S., Albright College; M.S., University of North Carolina at Charlotte

**Blanchard, Anita (2001)**; *Professor, Department of Psychological Science;* B.S., University of North Carolina at Chapel Hill; M.S., University of North Carolina at Chapel Hill; M.A., Claremont Graduate University; Ph.D., Claremont Graduate University

**Bland, Robert (2024)**; *Assistant Teaching Professor, Department of Mathematics and Statistics;* B.S., University of North Carolina at Charlotte; M.S., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Blandford, Cassandra L. (2015)**; *Lecturer, Department of Writing, Rhetoric, and Digital Studies;* B.A., Miami University; M.A., University of Louisville

**Blekking, Jordan (45880)**; *Assistant Professor, Department of Earth, Environmental, and Geographical Sciences;* Ph.D., Indiana University; M.Sc., Indiana University; B.Sc., Michigan State University; A.A., Kellogg Community College

**Bledsoe, Jordan R. (2012)**; *Lecturer, Department of Languages, Cultures, and Translation;* B.A., Brigham Young University; M.A., Brigham Young University

**Blitvich, Pilar G. (2005)**; *Professor, Department of English;* B.A., University of Valencia; M.A., University of Valencia; Ph.D., University of Valencia

**Bloise, Shelly (2021)**; *Library/Associate Professor;* M.L.I.S., Drexel University

**Boardman, Erika D. (2022)**; *Library/Associate Professor and Electronic Resources Management Librarian, J. Murrey Atkins Library;* B.A., University of North Carolina at Charlotte; M.L.I.S., University of North Carolina at Greensboro

**Boaz, Danielle N. (2015)**; *Professor, Department of Africana Studies;* J.D., University of Toledo; L.L.M., St. Thomas University; M.A., Florida International University; Ph.D., University of Miami

**Bochantin, Jamie E. (2014)**; *Associate Professor, Department of Communication Studies;* B.A., DePaul University; M.A., DePaul University; Ph.D., Texas A&M University

**Boisvert, Daniel (2007)**; *Senior Lecturer, Department of Philosophy;* B.A., Providence College; B.A., University of Central Florida; M.A., University of Florida; Ph.D., University of Florida

**Bombik, Anthony J. (44788)**; *Assistant Professor, Department of Mechanical Engineering and Engineering Science;* B.S., University of Alabama; M.S., Stanford University; Ph.D., Stanford University

**Bonakdar, Ali (2023)**; *Associate Professor, Department of Mechanical Engineering and Engineering Science;* B.S., University of Tehran; M.S., Sharif University of Technology; Ph.D., Concordia University

**Bong, Ji Yae (2023)**; *Assistant Professor, Department of Educational Leadership;* B.A., Inha University; M.Ed., Inha University; Ph.D., Florida State University

**Bonoffski, Tracy (2007)**; *Lecturer, Department of Applied Physiology, Health, and Clinical Sciences;* B.S., Cornell University; M.S., Wake Forest University

**Booton, Debra (2023)**; *Lecturer, Department of Applied Physiology, Health and Clinical Sciences;* Certificate, College of DuPage; A.S., Waubonsee Community College; B.A.S., University of Iowa; M.Ed., Colorado State University; D.Hsc., A.T. Still University

**Boreman, Glenn D. (2011)**; *Department Chair and Professor, Ishwar Aggarwal Department of Physics and Optical Science;* B.S., University of Rochester; M.S., University of Arizona; Ph.D., University of Arizona

**Bossu, Sebastien (2023)**; *Assistant Professor, Department of Mathematics and Statistics;* B.S., Sorbonne Universite; M.S., University of Chicago; M.S., Columbia University; Ph.D., Universite Paris-Sinclay

**Bottia, Martha C. (2011)**; *Research Assistant Professor, Department of Sociology;* B.A., University of Los Andes; M.A., University of Los Andes; M.A., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Bowling, Jessamyn (2016)**; *Associate Professor, Department of Epidemiology and Community Health;* B.A., University of North Carolina at Chapel Hill; M.P.H., University of Arizona; Ph.D., Indiana University Bloomington

**Boyd, Alice Suzanne (2002)**; *Professor, School of Social Work;* B.A., University of Virginia; M.S.W., Virginia Commonwealth University; Ph.D., Virginia Commonwealth University

**Boyer, Christopher (2024)**; *Dean, College of Humanities & Earth and Social Sciences;* A.B., Dartmouth College; M.A., University of Pittsburgh; Ph.D., University of Chicago

**Bradley, Stephanie L. (44788)**; *Assistant Teaching Professor, Department of Sociology;* B.S., Clemson University; M.S., Florida State University; Ph.D., Florida State University

**Brais, Sayde (2013)**; *Associate Teaching Professor, Department of Communication Studies;* B.A., University of North Carolina at Charlotte; M.A., University of North Carolina at Charlotte

**Branton, Regina (2022)**; *Professor, Department of Political Science and Public Administration;* B.A., University of South Carolina; M.A., University of Wyoming; Ph.D., University of Arizona

**Braxtan, Nicole (2016)**; *Assistant Professor, Department of Civil and Environmental Engineering;* B.S., Rutgers University; M.S., Princeton University; Ph.D., Lehigh University

**Bredy, Vania (2024)**; *Lecturer, Department of Health Management and Policy;* B.S., Florida A&M University; M.S.H.C.A., University of Maryland; D.HSc., Nova Southeastern University

**Brian, William R. (2017)**; *Associate Professor, Department of Mathematics and Statistics;* B.A., Baylor University; M.S., Tulane University; Ph.D., University of Oxford

**Brintnall, Kent (2008)**; *Associate Professor, Department of Religious Studies;* B.A., Fort Hays State University; M.A., Pacific School of Religion; J.D., Northeastern University; Ph.D., Emory University

**Brizendine, Anthony L. (2002)**; *Department Chair and Professor, Department of Engineering Technology and Construction Management;* B.S., Bluefield State College; M.S., Virginia Polytechnic Institute and State University; Ph.D., West Virginia University

**Brodeur, David (2000)**; *Associate Professor, Department of Art and Art History;* B.S., Southern Connecticut State University; M.F.A., University of Wisconsin

**Brosek, Jennifer A. (2022)**; *Assistant Professor and Collection Strategist, J. Murrey Atkins Library;* B.A., The University of Chicago; M.L.S., Indiana University; M.A., The University of Chicago

**Bross, Leslie (2019)**; *Associate Professor, Department of Special Education and Child Development;* B.S.Ed., University of Missouri; M.S.ED, University of Kansas; Ph.D., University of Kansas

**Brouwer, Cory (2010)**; *Director of Bioinformatics Services; and Research Associate Professor, Department of Bioinformatics and Genomics;* B.S., Iowa State University; Ph.D., Iowa State University

**Brown, Banita W. (1988)**; *Associate Dean for Academic and Student Success, Klein College of Science; Professor, Department of Chemistry*, B.S., Furman University; Ph.D., University of Miami

**Brown, Candace S. (2019)**; *Associate Professor, Department of Epidemiology and Community Health;* B.S., Pennsylvania State University; M.Ed., Cleveland State University; M.A., University of Southern California; Ph.D., Virginia Commonwealth University

**Brown, Cheryl L. (1982)**; *Department Chair and Associate Professor, Department of Political Science and Public Administration;* B.A., University of Florida; M.A., University of Michigan; Ph.D., University of Michigan

**Brown, Regena Y. (2018)**; *Director of Multicultural Academic Services and Clinical Assistant Professor, Multicultural Academic Services;* B.A., University of North Carolina at Charlotte; M.Ed., University of North Carolina at Greensboro

**Browne, Aidan F. (2012)**; *Associate Professor, Department of Engineering Technology and Construction Management;* B.S., Vanderbilt University; M.S., University of Connecticut; Ph.D., University of Connecticut

**Brownell, Blaine (2020)**; *Director and Professor, David R. Ravin School of Architecture;* B.A., Princeton University; M.Arch., Rice University

**Bryant, Dante D. (2019)**; *Assistant Professor, School of Social Work;* B.S., Southeast Missouri State University; M.S.W., University of Texas at Arlington; Ph.D., University of Texas at Arlington

**Buchenau, Jurgen (1998)**; *Executive Director and Professor, Department of History;* B.A., University of Cologne; M.A., University of North Carolina at Chapel Hill; Ph.D., University of North Carolina at Chapel Hill

**Buess, Christopher M. (2011)**; *Lecturer/Production Manager, College of Arts + Architecture;* B.A., San Diego State University

**Bullock, Sharon K. (2007)**; *Lecturer, Department of Biological Sciences;* B.S., North Carolina State University; Ph.D., University of North Carolina at Chapel Hill

**Bunch-Crump, Kimberly (2024)**; *Assistant Professor, Department of Special Education and Child Development;* B.S., Elizabeth City State University; M.Ed., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Bunescu, Razvan (2020)**; *Professor, Department of Computer Science;* Diploma de inginer, Politehnica University of Bucharest, Romania; Ph.D., University of Texas at Austin

**Burch, Thomas (2014)**; *Associate Professor, Department of Theatre;* B.F.A., University of Kentucky; M.F.A., Northwestern University

**Burfield, Allison H. (2009)**; *Associate Professor, School of Nursing;* A.S., Athens Area Technical College; B.S.N., University of Central Florida; M.S.N., University of Central Florida; Ph.D., University of Central Florida

**Burghardt, Keith (46023)**; *Assistant Professor, School of Data Science;* Ph.D., University of Maryland; B.S., University of Maryland

**Burke, Jennifer (2024)**; *MA Fellow in Spanish, Department of Languages, Cultures, and Translation;* M.A., University of North Carolina at Charlotte

**Burke, Jessica (2018)**; *Associate Professor, Department of Art and Art History;* B.F.A., Oklahoma State University; M.F.A., University of North Carolina at Greensboro

**Burke, Kathleen D. (2018)**; *Lecturer, Department of Psychology;* B.A., Pennsylvania State University; M.A., Ohio State University

**Burnett, Brian M. (2019)**; *Associate Professor, Turner School of Accountancy;* B.S., Biola University; M.B.A., Pepperdine University; Ph.D., University of Colorado at Boulder

**Butler, Bettie Ray (2011)**; *Professor, Department of Middle, Secondary, and K-12 Education;* B.A., North Carolina A&T State University; M.A., Texas A&M University; Ph.D., Texas A&M University

**Butler, Malcolm B. (2022)**; *Dean, Cato College of Education; Professor, Department of Middle, Secondary, and K-12 Education*, B.S., Southern University and A&M College; M.Ed., University of Florida; Ph.D., University of Florida

**Buttimer, Richard (2024)**; *Dean, Belk College of Business;* B.B.A., University of Georgia; Ph.D., University of Georgia

**Byker, Erik J. (2014)**; *Professor, Department of Reading and Elementary Education;* B.A., Dordt College; M.Ed., University of Virginia; Ph.D., Michigan State University

**Byrd, Jennifer B. (2016)**; *Visiting Lecturer, Department of English;* B.A., University of North Carolina at Charlotte; M.A., University of North Carolina at Charlotte

**Cachelin, Faryaneh (Fary) M. (2010)**; *Professor, Department of Psychological Science;* B.A., Stanford University; M.A., Harvard University; Ph.D., Harvard University

**Cai, Wei (1989)**; *Professor, Department of Mathematics and Statistics;* B.S., University of Science and Technology of China, China; M.S., University of Science and Technology of China, China; M.S., Brown University; Ph.D., Brown University

**Cain, Mary (2023)**; *Lecturer, Department of Applied Physiology, Health and Clinical Sciences;* B.S., Erskine College; M.S., Georgia State University; Ph.D., Georgia State University

**Cameron, Christopher A. (2010)**; *Interim Department Chair, Department of Africana Studies; Professor, Department of History*, B.A., Keene State College; M.A., University of North Carolina at Chapel Hill; Ph.D., University of North Carolina at Chapel Hill

**Camp, Linda (45880)**; *Distinguished Professor, Department of Software and Information Systems;* Ph.D., Carnegie Mellon University; M.S., University of North Carolina at Charlotte; B.A., University of North Carolina at Charlotte

**Campbell, Robert C. (2010)**; *Associate Professor, Department of Art and Art History;* B.A., Transylvania University; M.F.A., University of Michigan at Ann Arbor

**Campbell, William L. (2004)**; *Professor, Department of Music;* B.M., University of North Texas; M.M., University of North Texas; D.M.A., University of Illinois at Urbana-Champaign

**Campbell-Whatley, Gloria (2003)**; *Professor, Department of Special Education and Child Development;* B.A., Dillard University; M.A., University of Alabama at Birmingham; Ed.D., University of Alabama

**Canada, Nicholas (2024)**; *Assistant Teaching Professor, Department of American Studies;* B.A., University of North Carolina at Charlotte; M.A., University of North Carolina at Charlotte; Ph.D., Bowling Green State University

**Canello, Jacopo (2016)**; *Assistant Professor, Department of Earth, Environmental, and Geographical Sciences;* B.S., University of Padova; M.D., Ca' Foscari University of Venice; M.S., Trinity College, Dublin; Ph.D., University of Queensland

**Canevello, Amy B. (2011)**; *Professor, Department of Psychological Science;* B.S., North Dakota State University; M.A., University of Houston; Ph.D., University of Houston

**Cannon, Julie (2024)**; *Assistant Professor, Department of Communication Studies;* B.F.A., Florida State University; M.A., Purdue University; Ph.D., Cornell University

**Cao, Lijuan (2016)**; *Professor, Department of Software and Information Systems;* B.S., University of Electronic Science and Technology of China; Ph.D., University of North Carolina at Charlotte

**Cao, Tuan Thanh (2013)**; *Lecturer, Department of Biological Sciences;* B.S., University of North Carolina at Charlotte; M.S., University of North Carolina at Charlotte; Ph.D., University of Arizona

**Cao, Yang (2003)**; *Associate Professor, Department of Sociology;* M.A., Cornell University; Ph.D., Cornell University

**Cao, Yi (45853)**; *Teaching Assistant Professor, Office of Student Development and Success, The William States Lee College of Engineering;* Ph.D., Virginia Tech University; M.A., Wuhan University; B.S., China Jiliang University

**Carman, Joanne G. (2005)**; *Professor, Department of Political Science and Public Administration;* B.A., Hartwick College; M.A., State University of New York at Albany; Ph.D., State University of New York at Albany

**Carter, Morgan (44929)**; *Visiting Assistant Professor, Department of Biological Sciences;* B.S., North Carolina State University; Ph.D., Cornell University

**Cartwright, Kelly (45294)**; *Distinguished Professor, Department of Reading and Elementary Education;* B.S., Virginia Tech University; M.A., University of Arkansas; Ph.D., University of Arkansas

**Caruso, Elizabeth L. (2011)**; *Lecturer, Department of English;* B.A., University of North Carolina at Charlotte; M.A., University of North Carolina at Charlotte

**Caruso, Elizabeth L. (2018)**; *Assistant Professor and Digital Pedagogy and Emerging Technologies Librarian, J. Murrey Atkins Library;* B.A., University of North Carolina at Charlotte; M.A., University of North Carolina at Charlotte; M.L.I.S., University of South Carolina

**Cary, Justin R. (2014)**; *Lecturer, Department of Writing, Rhetoric, and Digital Studies;* B.A., Villanova University; M.A., Xavier University

**Casas, Carlos Cruz (2013)**; *Professor, Department of Theatre;* B.A., University of Puerto Rico; M.F.A., Dell'Arte International School of Physical Theatre

**Cash, Anne H. (2014)**; *Associate Professor, Department of Reading and Elementary Education;* B.S., Furman University; Ph.D., University of Virginia

**Casto-Boggess, Laura (2023)**; *Assistant Professor, Department of Chemistry;* B.S., West Virginia Weslyan College; Ph.D., University of Tennessee at Knoxville; Post Doctorate, University of California at Berkeley

**Cavalline, Tara L. (2006)**; *Professor, Department of Engineering Technology and Construction Management;* B.S., Pennsylvania State University; M.S., Pennsylvania State University

**Cecchi, Valentina (2010)**; *Associate Professor, Department of Electrical and Computer Engineering;* B.S., Drexel University; M.S.E.E., Drexel University; Ph.D., Drexel University

**Chakrabarti, Kausik (2017)**; *Associate Professor, Department of Biological Sciences;* Ph.D., University of Calcutta, India

**Chancellor, Bryn K. (2015)**; *Associate Professor, Department of English;* B.A., Northern Arizona University; M.A., Arizona State University; M.F.A., Vanderbilt University

**Chang, Ian (2024)**; *Assistant Professor, Department of Earth, Environmental, and Geographical Sciences;* B.S., Northern Illinois University; Graduate Certificate, Northern Illinois University; M.S., Northern Illinois University; Ph.D., University of Alabama

**Chao, Fang-yi (2023)**; *Assistant Teaching Professor, Department of Languages, Cultures, and Translation;* B.S., National Tsing Hua University; M.A., Tunghai University; Ph.D., Ohio State University

**Chapman, Marvin W. (2003)**; *Clinical Assistant Professor, Department of Reading and Elementary Education;* B.A., Wofford College; M.A., Western Carolina University; Ph.D., University of North Carolina at Chapel Hill

**Chattopadhyay, Jacqueline (2012)**; *Associate Professor, Department of Political Science and Public Administration;* B.A., University of California, Irvine; Ph.D., Harvard University

**Chen, Dong (2009)**; *Professor, Department of Engineering Technology and Construction Management;* B.S., Tongji University, China; M.S., Iowa State University; Ph.D., Iowa State University

**Chen, Duan (2013)**; *Professor, Department of Mathematics and Statistics;* B.A., Huazhong University of Science and Technology, China; M.S., Huazhong University of Science and Technology, China; Ph.D., Michigan State University

**Chen, Gang (2012)**; *Professor, Department of Earth, Environmental, and Geographical Sciences;* B.Sc., Wuhan University, China; M.Sc., Wuhan University, China; Ph.D., University of Calgary

**Chen, Gongfan (45880)**; *Assistant Professor, Department of Engineering Technology and Construction Management;* Ph.D., North Carolina State University; M.S., North Carolina State University; M.S., University of Michigan; B.S., North China Electric Power University

**Chen, Ming (2019)**; *Assistant Professor, Department of Marketing;* B.S., University of Electronic Science and Technology of China; M.S., University of Electronic Science and Technology of China; M.S., Johns Hopkins University; Ph.D., University of Houston

**Chen, Shen-En (2005)**; *Professor, Department of Civil and Environmental Engineering;* B.S.C.E., West Virginia University; M.S.C.E., West Virginia University; Ph.D., West Virginia University

**Chen, Shi (2016)**; *Associate Professor, Department of Epidemiology and Community Health;* B.S., Nanjing University, China; Ph.D., Pennsylvania State University

**Chen, Xiang (2023)**; *Assistant Professor, Department of Mechanical Engineering and Engineering Science;* B.S., B.L., Harbin Engineering University; M.S., Hong Kong University of Science and Technology; Ph.D., University of Florida

**Chen, Youxing (2019)**; *Associate Professor, Department of Mechanical Engineering and Engineering Science;* B.S., Chongqing University, China; M.S., Shanghai Jiao Tong University, China; Ph.D., Texas A&M University

**Chen, Yuting (2019)**; *Visiting Assistant Professor, Department of Engineering Technology and Construction Management;* B.S., Shandong Jianzhu University, China; M.S., Tongji University, China; Ph.D., University of Toronto, Canada

**Chen, Zhuo J. (2022)**; *Professor, School of Nursing;* B.A., Wuhan University, China; M.S., University of Tennessee at Chattanooga; M.S., University of Oregon; Ph.D., University of Oregon

**Cheng, Qiong (2018)**; *Lecturer, Department of Computer Science;* B.S., Wuhan University, China; M.S., Georgia State University; Ph.D., Georgia State University

**Chertok, Ilana (2015)**; *Professor and Associate Director of the Graduate Division, School of Nursing;* B.A., University of Pennsylvania; B.S.N., Rush University; M.S.N., West Virginia University; Ph.D., Ben-Gurion University of the Negev

**Cherukuri, Harischandra (Harish) P. (1997)**; *Department Chair and Professor, Department of Mechanical Engineering and Engineering Science;* M.S., Montana State University; Ph.D., University of Illinois

**Chi, Richard J. (2015)**; *Associate Professor, Department of Biological Sciences;* B.S., Florida State University; Ph.D., Florida State University

**Chiang, I-Hsuan (Ethan) (2008)**; *Associate Dean for Graduate Programs, Department of Finance;* B.A., National Taiwan University, Taiwan; M.B.A., National Chengchi University; Ph.D., Boston College

**Christou, Eliana (2016)**; *Associate Professor, Department of Mathematics and Statistics;* B.A., National Conservatory of Cyprus; B.A., National Conservatory of Cyprus; B.A., University of Cyprus; M.S., Pennsylvania State University; Ph.D., Pennsylvania State University

**Chu, Bei-Tseng (Bill) (1988)**; *Professor, Department of Software and Information Systems;* B.S., University of Maryland; M.S., University of Maryland; Ph.D., University of Maryland

**Chu, Yongqiang (2018)**; *Childress Klein Distinguished Professor of Real Estate and Urban Economics, Department of Finance;* B.S., Peking University, China; M.S., National University of Singapore; Ph.D., University of Wisconsin-Madison

**Chung, Hee Cheol (2022)**; *Assistant Professor, Department of Mathematics and Statistics;* B.A., Yonsei University, South Korea; M.A., Yonsei University, South Korea; Ph.D., University of Georgia

**Cisneros, Susana (2016)**; *Lecturer, Department of Languages, Cultures, and Translation;* B.A., National University of Cordoba; M.A., University of North Carolina at Charlotte

**Clark, Darnell K. (44789)**; *Lecturer, Department of Applied Physiology, Health, and Clinical Sciences;* B.S., Northwestern University; M.S.P.E., Arizona State University; Ed.D., University of North Carolina at Greensboro

**Clark, Kimberly (2017)**; *Clinical Associate Professor, Department of Applied Physiology, Health, and Clinical Sciences;* B.S., Wheeling Jesuit University; M.B.A., West Virginia University; Ed.D., University of North Carolina at Charlotte

**Clark, Steven P. (2002)**; *Associate Professor, Department of Finance;* B.A., Valdosta State University; M.A., University of Georgia; Ph.D., University of Virginia; Ph.D., University of Virginia

**Cline, Tyler G. (2017)**; *Assistant Professor and Library Faculty President, J. Murrey Atkins Library;* B.A., Humboldt State University; M.A., California State University

**Clinton, Sandra (2010)**; *Visiting Research Professor, Department of Biological Sciences;* B.S., McGill University; M.S., Arizona State University; Ph.D., University of Washington

**Clontz, Steven C. (2014)**; *Visiting Assistant Professor, Department of Mathematics and Statistics;* B.S., Auburn University; M.S., Auburn University; Ph.D., Auburn University

**Coffey, Heather M. (2009)**; *Professor, Department of Middle, Secondary, and K-12 Education;* B.A., Elon University; M.Ed., University of North Carolina at Greensboro; Ph.D., University of North Carolina at Chapel Hill

**Cohen, Tamara (2011)**; *Lecturer, Department of Marketing;* B.A., University of Capetown; M.B.A., University of Pennsylvania

**Coleman, Elizabeth R. (2014)**; *Assistant Professor, Department of Reading and Elementary Education;* B.A., Notre Dame University; M.A., Seton Hall University; Ed.D., Loyola University Chicago

**Colombo, Amy (2016)**; *Lecturer, Department of Writing, Rhetoric, and Digital Studies;* M.F.A., University of Delaware; M.F.A., West Virginia University; Ph.D., Virginia Commonwealth University

**Colonnese, Madelyn W. (2017)**; *Associate Professor, Department of Reading and Elementary Education;* B.S., University of Connecticut; M.A., University of Connecticut; Ph.D., University of Connecticut

**Conkie, Robert (2023)**; *Distinguished Professor of Shakespeare, Department of Theatre;* B.A., University of Melbourne; Graduate Diploma, University of Melbourne; M.A., University of Birmingham; Ph.D., University of Southampton

**Connolly, Paula T. (1991)**; *Professor, Department of English;* A.B., Boston College; M.A., Boston College; Ph.D., University of Massachusetts at Amherst

**Conrad, James M. (2003)**; *Interim Department Chair and Professor, Department of Electrical and Computer Engineering;* B.S., University of Illinois Urbana-Champaign; M.S., North Carolina State University; Ph.D., North Carolina State University

**Cook, Julie A. (2012)**; *Lecturer, Department of Writing, Rhetoric, and Digital Studies;* B.A., University of North Carolina at Charlotte; M.A., University of North Carolina at Charlotte

**Cooper, Brian T. (1997)**; *Associate Professor, Department of Chemistry;* B.S., Purdue University; Ph.D., University of Arizona

**Cooper, Elizabeth A. (2018)**; *Associate Professor, Department of Bioinformatics and Genomics;* B.A., Grinnell College; Ph.D., University of Southern California

**Cooper, Maisha N. (2018)**; *Associate Professor, Department of Criminal Justice and Criminology; Assistant Professor;* B.S., University of Central Missouri; M.S., University of Central Missouri; Ph.D., Sam Houston State University

**Cornelius, Judith B. (2005)**; *Professor, School of Nursing; Professor;* B.S.N., Hampton Institute; M.S.N., Hampton University; D.N.Sc., Rush University

**Costanza, David (2020)**; *Assistant Professor, David R. Ravin School of Architecture;* B.S., University of Utah; M.S., Massachusetts Institute of Technology; M.Arch., Massachusetts Institute of Technology

**Cotroneo, Domenico (45960)**; *Professor, Department of Computer Science;* Laurea di Dottore, University of Naples, Frederico II; Dottorato di Ricerca, University of Naples, Frederico II

**Cox, John M. (2011)**; *Associate Professor, Department of Global Studies;* B.A., Appalachian State University; M.A., Brandeis University; Ph.D., University of North Carolina at Chapel Hill

**Cox, Kyle (2019)**; *Associate Professor, Department of Educational Leadership;* B.S.Ed., Miami University; M.A., University of Cincinnati; Ph.D., University of Cincinnati

**Cox, Robert W. (2006)**; *Executive Director, Department of Electrical and Computer Engineering;* B.S., Massachusetts Institute of Technology; M.Eng., Massachusetts Institute of Technology; Ph.D., Massachusetts Institute of Technology

**Cramer, Robert J. (2019)**; *Professor/Irwin Belk Distinguished Scholar in Health Research, Department of Epidemiology and Community Health;* B.A., Loyola University Maryland; M.A., University of Alabama; Ph.D., University of Alabama

**Crane, Patricia B. (2020)**; *Carol Grotnes Belk Distinguished Professor, School of Nursing;* B.S.N., University of Louisiana at Monroe; M.S.N., Northwestern State University; Ph.D., University of Arkansas for Medical Sciences

**Creyts, Sarah (45880)**; *Lecturer, School of Nursing;* M.S.N., Simmons University

**Crisanti, Carlin (45880)**; *Teaching Assistant Professor, Department of Political Science and Public Administration;* Ph.D., Claremont Graduate University; M.A., Claremont Graduate University; B.S., Radford University

**Crocker, Tianca (2018)**; *Assistant Professor, School of Social Work;* B.A., University of Virginia; M.S.W., George Mason University; Ph.D., University of Texas at Austin

**Cronell, Teresa S. (2022)**; *Lecturer, School of Nursing;* B.S., Queens University of Charlotte; M.S.N., Walden University

**Crosby, Caylah N. (44788)**; *Assistant Teaching Professor, Department of Mathematics and Statistics;* B.S., University of North Carolina at Wilmington; M.S., University of North Carolina at Wilmington; Ph.D., University of North Carolina at Charlotte

**Crosby, Gary W. (2019)**; *Lecturer, Department of Mathematics and Statistics;* B.S., University of North Carolina at Chapel Hill; M.B.A., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Cross, Donald (2024)**; *Assistant Professor, Department of Languages, Cultures, and Translation;* B.A., University of Colorado at Boulder; M.A., State University of New York; Ph.D., State University of New York

**Cross, Karen (2013)**; *Clinical Assistant Professor and Supervisor of Student Teaching, Office of School and Community Partnerships, Cato College of Education;* B.S., Winston-Salem State University; M.S., Virginia Polytechnic Institute and State University; Ed.D., University of North Carolina at Greensboro

**Cukic, Bojan (2014)**; *Dean, College of Computing and Informatics; Professor, Department of Computer Science*; M.S., University of Houston; Ph.D., University of Houston

**Da Costa Vieira, Rafael Felipe (44929)**; *Associate Professor, Department of Epidemiology and Community Health;* D.V.M., Federal Rural University of Pernambuco, Brazil; M.S., Federal University of Parana, Brazil; Ph.D., Londrina State University, Brazil

**Dack, Hilary G. (2015)**; *Professor, Department of Middle, Secondary, and K-12 Education;* B.A., Davidson College; J.D., University of North Carolina at Chapel Hill; M.Ed., University of Virginia; Ph.D., University of Virginia

**Dagher, Debra (2015)**; *Lecturer, Department of Writing, Rhetoric, and Digital Studies;* B.A., University of North Carolina at Charlotte; M.Ed., Marymount University

**Dahl, Alicia A. (2018)**; *Associate Professor, Department of Epidemiology and Community Health;* B.A., Juniata College; M.S., University of Delaware; Ph.D., University of South Carolina

**Daise, Debra Ann (2016)**; *Lecturer, English Language Training Institute;* B.A., University of Colorado at Boulder; M.A., University of Colorado at Boulder

**Dal Pra, Daniela C. (2012)**; *Visiting Lecturer, Department of Languages, Cultures, and Translation;* B.A., Università Ca'Foscari Venezia; M.A., Università Ca'Foscari Venezia

**Dalsheim, Joyce (2010)**; *Professor, Department of Global Studies;* B.A., The American University; M.S.Ed., University of Pennsylvania; M.A., New School for Social Research; Ph.D., New School for Social Research

**Dalton, David (2016)**; *Professor, Department of Languages, Cultures, and Translation;* B.A., Brigham Young University; M.A., Brigham Young University; Ph.D., University of Kansas

**Dalton, Jane Emily (2013)**; *Professor, Department of Art and Art History;* B.A., Augustana College; M.F.A., Rochester Institute of Technology; Ph.D., European Graduate School

**Dalton, Joseph B. (2013)**; *Lecturer, Department of Mechanical Engineering and Engineering Science;* B.S., University of North Carolina at Charlotte

**D'Amico, Mark (2009)**; *Professor, Department of Educational Leadership;* B.A., Gannon University; M.A., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Greensboro

**Damron, James (2023)**; *Lecturer, Department of Applied Physiology, Health and Clinical Sciences;* B.A., Queens University of Charlotte; A.A., Central Piedmont Community College; M.A., Columbia International University; M.Div., Southern Evangelical Seminary; M.A., Loyola University

**Daniels, John L. (2001)**; *Professor, Department of Civil and Environmental Engineering;* B.S., Lehigh University; M.S., University of Massachusetts; Ph.D., University of Massachusetts

**Das, Srijan (2022)**; *Assistant Professor, Department of Computer Science;* B.Tech., St. Thomas' College of Engineering and Technology, India; M.Tech., National Institute of Technology, India; Ph.D., Côte d'Azur University, France

**Dasgupta, Aneesha (45880)**; *Assistant Professor, Department of Biological Sciences;* Ph.D., University of Nebraska; M.S., St. Xavier's College; B.S., St. Xavier's College

**Davenport, Casey (2014)**; *Associate Professor, Department of Earth, Environmental, and Geographical Sciences;* B.S., Valparaiso University; M.S., North Carolina State University; Ph.D., North Carolina State University

**Davenport, Meghan (2023)**; *Lecturer, Department of Psychological Science;* B.A., Rice University; M.A., Rice University; Ph.D., Rice University

**David, Zhanna (2024)**; *Assistant Teaching Professor, Department of Psychological Science;* B.A., University of North Carolina at Charlotte; Graduate Certificate, University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Davies, Helen (45880)**; *Assistant Professor, Department of English;* Ph.D., University of Rochester; M.A., Loyola University; M.A., University of York; B.A., Loyola University

**Davin, Kristin J. (2017)**; *Professor, Department of Middle, Secondary, and K-12 Education;* B.A., Wake Forest University; M.A.Ed., Wake Forest University; Ph.D., University of Pittsburgh

**Davis, Nicholas M. (2017)**; *Assistant Professor, Department of Software and Information Systems;* B.A., Case Western Reserve University; Ph.D., Georgia Institute of Technology

**Davis, William S. (2018)**; *Lecturer, Department of Communication Studies;* B.A., University of North Carolina at Charlotte; M.A., University of North Carolina at Charlotte

**de la Cruz, Kalavik (2024)**; *MA Fellow, Department of Languages, Cultures, and Translation;* B.A., North Carolina State University; M.A., North Carolina State University

**de la Torre, Oscar (2012)**; *Associate Professor, Department of Africana Studies;* B.A., University of Barcelona; M.A., University of Pittsburgh; Ph.D., University of Pittsburgh

**De Silva Indrasekara, Agampodi S. (2018)**; *Assistant Professor, Department of Chemistry;* B.S., University of Peradeniya, Sri Lanka; M.S., North Carolina State University; Ph.D., Rutgers University

**Dearden, David (2019)**; *Assistant Dean for Undergraduate Education and Director, University Advising Center, Office of Undergraduate Education; Director, University Advising Center*, B.A., St. Joseph's College; M.Ed., Northeastern University; Ed.D., University of Vermont

**Deeba, Farah (44929)**; *Assistant Professor, Department of Electrical and Computer Engineering;* B.S., Bangladesh University of Engineering and Technology; M.S., University of Saskatchewan; Ph.D., University of British Columbia, Canada

**Della Justina Fanas, Ticiana (2025)**; *Research Assistant Professor, Department of Biological Sciences;* B.Sc., Federal University of Santa Catarina, Brazil; M.Sc., Federal University of Santa Catarina, Brazil; Ph.D., Federal University of Parana, Brazil

**Demakis, George (2002)**; *Professor, Department of Psychological Science;* B.S., Loyola The University of Chicago; M.S., Virginia Polytechnic Institute and State University; Ph.D., Virginia Polytechnic Institute and State University

**Deng, Shaozhong (2005)**; *Professor, Department of Mathematics and Statistics;* B.S., Xi'an Jiatong University; M.S., Nanjing University of Aeronautics and Astronautics; M.S., North Carolina State University; Ph.D., North Carolina State University

**Dennison, Jaime (45880)**; *Assistant Teaching Professor, Department of History;* Ph.D., Temple University; M.A., McMaster University; B.A., McMaster University

**Depken, Craig A. (2007)**; *Department Chair and Professor, Department of Economics;* B.A., University of Georgia; Ph.D., University of Georgia

**Desloge, Alissa (2024)**; *Assistant Professor, Department of Epidemiology and Community Health;* B.A., University of South Carolina; M.P.H., Yale University; Ph.D., University of Illinois, Chicago

**Dessi-Olive, Jonathan (44788)**; *Associate Professor, David R. Ravin School of Architecture;* B.S., University of Minnesota; M.Arch., University of Pennsylvania; M.S., Massachusetts Institute of Technology

**Diab, Kefaya M. (44788)**; *Assistant Professor, Department of Writing, Rhetoric, and Digital Studies;* B.C.S., Al Al-Bait University, Mafraq, Jordan; M.A., New Mexico State University; Ph.D., New Mexico State University - Las Cruces

**Diao, Yuanan (1996)**; *Professor, Department of Mathematics and Statistics;* B.S., Wuhan University, China; M.S., Beijing University, China; Ph.D., Florida State University

**Diaz Vasquez, Jose F. (2019)**; *Assistant Professor, Department of Epidemiology and Community Health;* B.S., Santo Domingo Institute of Technology, Dominican Republic; M.S., Polytech Marseille, France; Ph.D., University of Texas Health Science Center at Houston

**Dickenson, Joshua (45853)**; *Teaching Assistant Professor, Office of Student Development and Success, The William States Lee College of Engineering;* Ph.D., University of Florida; M.Eng., University of Florida; B.S., University of Florida

**Dickey, Rachel (2016)**; *Associate Professor, David R. Ravin School of Architecture;* B.S.Arch., Georgia Institute of Technology; M.D.S., Harvard University; M.Arch., Georgia Institute of Technology

**Diegmann, Debra (2016)**; *Teacher-in-Residence, Office of School and Community Partnerships, Cato College of Education;* B.A., University of North Carolina at Asheville; M.Ed., Lesley University

**Dika, Sandra (2010)**; *Interim Department Chair and Professor, Department of Educational Leadership;* B.A.Ed., University of Alberta; M.S., University of Alberta; Ph.D., Virginia Polytechnic Institute and State University

**Dinar, Mahmoud (2023)**; *Assistant Professor, Department of Mechanical Engineering and Engineering Science;* B.S., Amir Kabir University of Technology; M.S., Chalmers University of Technology; Ph.D., Arizona State University

**Dior, Rick (2003)**; *Lecturer, Department of Music;* B.M., Manhattan School of Music

**Dippong, Joseph Carl (2013)**; *Associate Professor, Department of Sociology;* B.A., Hiram College; M.A., Kent State University; Ph.D., Kent State University

**Divita, Anna R. (2015)**; *Lecturer, Department of Criminal Justice and Criminology;* B.A., Ohio State University; M.S., Boston University

**Dobbs, Bryan (2023)**; *Visiting Assistant Professor, Department of Computer Science;* B.S., Lenoir-Rhyne University; B.S., Lenoir-Rhyne University; Graduate Certificate, University of North Carolina at Charlotte; M.S., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Donovan, Luke (2016)**; *Associate Professor, Department of Applied Physiology, Health, and Clinical Sciences;* B.S., Pennsylvania State University; M.Ed., University of Virginia; Ph.D., University of Virginia

**Donovan-Merkert, Bernadette T. (1992)**; *Dean, Department of Chemistry;* B.S., Duke University; Ph.D., University of Vermont

**Dornburg, Alexis (2020)**; *Associate Professor, Department of Bioinformatics and Genomics;* B.S., Washington State University; M.S., Yale University

**Doroodchi, Mohsen (2014)**; *Teaching Associate Professor, Department of Computer Science;* B.S., Shiraz University; M.S., University of Wisconsin-Madison; Ph.D., University of Wisconsin-Madison

**Dou, Wenwen (2013)**; *Professor, Department of Computer Science;* B.S., Beijing University, China; Ph.D., University of North Carolina at Charlotte

**Douglas, James W. (2006)**; *Professor, Department of Political Science and Public Administration;* B.A., University of Maryland; M.P.A., University of Baltimore; D.P.A., The University of Georgia

**Dow, Alan S. (2000)**; *Professor, Department of Mathematics and Statistics;* B.S., University of Manitoba; M.Sc., University of Manitoba; Ph.D., University of Manitoba

**Dreau, Didier (2004)**; *Professor, Department of Biological Sciences;* B.S., University of Rennes; M.S., Blaise Pascal University; Ph.D., National College of Agriculture

**Drew-Branch, Vanessa (2014)**; *Lecturer, School of Social Work;* B.S., California University of Pennsylvania; B.A., California University of Pennsylvania; M.S.W., West Virginia University; D.Ed., West Virginia University

**Du, Dan (2018)**; *Assistant Professor, Department of History;* B.A., Nankai University, China; M.A., Nankai University, China; Ph.D., University of Georgia

**Du, Xiuxia (2008)**; *Professor, Department of Bioinformatics and Genomics;* B.S., Hefei University of Technology; M.S., Washington University; Ph.D., Washington University

**Du, Yan (2023)**; *Associate Professor, Department of Economics;* B.A., Xiamen University; Graduate Certificate, University of Kansas; M.S., Oregon State University; Ph.D., Oregon State University

**DuBose, Sequina (2019)**; *Associate Professor, Department of Music;* B.A., Morgan State University; M.M., George Mason University; Ph.D., University of Maryland, College Park

**Duddu, Venkata (2017)**; *Research Assistant Professor, Department of Civil and Environmental Engineering;* B.Eng., Osmania University, India; M.S.C.E., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Dugat, Kevin (45880)**; *Visiting Lecturer, Department of Music;* D.M.A., Boston University; M.Mus., University of Alabama; B.Mus., Texas State University

**Duncan, Jennifer (2002)**; *Lecturer, David R. Ravin School of Architecture;* A.A., Cazenovia College; M.A., State University of New York at Albany; M.L.S., State University of New York at Albany

**Dungee, Jason (2021)**; *Assistant Professor, Department of Music;* B.A., Hampton University; M.M., Westminster Choir College; D.M.A., University of Arizona

**Dutcher, Edwin (2024)**; *Associate Professor, Department of Economics;* B.S., University of Central Missouri; M.A., Florida State University; Ph.D., Florida State University

**Dutta, Debarati (2010)**; *Lecturer, Department of Writing, Rhetoric, and Digital Studies;* B.A., University of Calcutta, India; M.A., University of Calcutta, India; Ph.D., Texas Christian University

**Eads, Denelle E. (2011)**; *Assistant Professor and Personnel and Staff Development Librarian, J. Murrey Atkins Library;* B.A., Bowling Green State University; M.L.I.S., University of North Carolina at Greensboro

**Eaker, Mia (2014)**; *Lecturer, Department of Writing, Rhetoric, and Digital Studies;* B.A., University of North Carolina at Charlotte; M.A., University of North Carolina at Charlotte

**Eastin, Matthew D. (2006)**; *Professor, Department of Earth, Environmental, and Geographical Sciences;* B.S., Purdue University; M.S., Colorado State University; Ph.D., Colorado State University

**Ebong, Abasifreke (2011)**; *Professor, Department of Electrical and Computer Engineering;* B.Sc., University of Port Harcourt, Nigeria; M.Sc., University of Port Harcourt, Nigeria; Ph.D., The University of New South Wales, Australia

**Eckard, Paula G. (1990)**; *Professor, Department of English;* B.S., University of North Carolina at Charlotte; B.A., University of North Carolina at Charlotte; M.A., University of North Carolina at Charlotte; M.H.D.L., University of North Carolina at Charlotte; Ph.D., University of South Carolina

**Eddins, Crystal N. (2017)**; *Associate Professor, Department of Africana Studies;* B.A., Michigan State University; M.A., Michigan State University; Ph.D., Michigan State University

**Egusa, Shunji (2015)**; *Associate Professor, Ishwar Aggarwal Department of Physics and Optical Science;* B.S., University of Tokyo, Japan; M.S., The University of Chicago; Ph.D., The University of Chicago

**Ehlers, Maren A. (2011)**; *Associate Professor, Department of History;* M.A., University of Hamburg, Germany; Ph.D., Princeton University

**Eickhoff, Karen F. (2012)**; *Clinical Assistant Professor, Department of Management;* B.S., University of Tennessee at Chattanooga; M.B.A., University of Tennessee at Knoxville; Ph.D., University of Tennessee at Knoxville

**Elberfeld, Nathaniel (2024)**; *Assistant Professor, David R. Ravin School of Architecture;* B.S., College of William & Mary; M.Arch., Washington University; M.S., Massachusetts Institute of Technology

**El-Ghannam, Ahmed R. (2007)**; *Professor, Department of Mechanical Engineering and Engineering Science;* B.Sc., Cairo University, Egypt; M.Sc., Ain Shams University, Egypt; M.S.E., University of Pennsylvania; Ph.D., University of Pennsylvania

**Ellinger, Jefferson (2013)**; *Professor, David R. Ravin School of Architecture;* B.S., The Ohio State University; M.Arch., Columbia University

**Elnitsky, Christine (2013)**; *Associate Professor, School of Nursing;* B.S.N., Old Dominion University; M.S.N., Old Dominion University; Ph.D., Old Dominion University

**Elowson, Allison H. (2015)**; *Lecturer, Department of Mathematics and Statistics;* B.A., Clemson University; M.A., University of North Carolina at Charlotte

**Emerling, Jae A. (2007)**; *Associate Dean for Research, Department of Art and Art History;* B.A., Wesleyan University; M.A., University of California, Los Angeles; Ph.D., University of California, Los Angeles

**Endacott, Camille G. (2021)**; *Assistant Professor, Department of Communication Studies;* B.A., Azusa Pacific University; M.A., University of California, Santa Barbara

**Engstrom, Rachel M. (2016)**; *Lecturer and Costume Lab Manager, Performing Arts Services, College of Arts + Architecture;* B.A., Western Michigan University; M.F.A., California State University, Long Beach

**Eppes, Martha C. (2002)**; *Professor, Department of Earth, Environmental, and Geographical Sciences;* B.S., Washington and Lee University; M.S., New Mexico Institute of Mining and Technology; Ph.D., University of New Mexico

**Erevelles, Sunil (2002)**; *Associate Professor, Department of Marketing;* B.Tech., Anna University Madras; M.A., Ohio State University; Ph.D., Ohio State University

**Ergun, Emek (2016)**; *Associate Professor, Department of Global Studies;* B.A., Boğaziçi University; M.S., Towson University; Ph.D., University of Maryland, Baltimore County

**Escobar DeMarco, Jessica (2022)**; *Assistant Professor, Department of Epidemiology and Community Health;* B.A., Universidad Evangélica de El Salvador, El Salvador; M.Sc., Cornell University; Ph.D., University of South Carolina

**Essakiappan, Somasundaram (2024)**; *Teaching Professor, EPIC;* B.S., Anna University; M.S., Texas A&M University; Ph.D., Texas A&M University

**Etters, Elizabeth B. (2012)**; *Lecturer, Department of Mathematics and Statistics;* B.A., University of North Carolina at Charlotte; M.S., University of North Carolina at Charlotte

**Etzkorn, Markus (2005)**; *Associate Professor, Department of Chemistry;* B.S., Albert Ludwigs University of Freiburg, Germany; M.S., Albert Ludwigs University of Freiburg, Germany; Ph.D., Albert Ludwigs University of Freiburg, Germany

**Eum, Youngseob (2023)**; *Assistant Professor, Department of Earth, Environmental, and Geographical Sciences;* B.A., Seoul National University; M.A., Seoul National University; Ph.D., State University of New York at Buffalo

**Ewers, Michael C. (2019)**; *Associate Professor, Department of Earth, Environmental, and Geographical Sciences;* B.A., Ohio State University; M.A., Ohio State University; Ph.D., Ohio State University

**Exum, Myron Lyn (2000)**; *Associate Professor, Department of Criminal Justice and Criminology;* B.A., Wake Forest University; M.A., Wake Forest University; Ph.D., University of Maryland

**Fagan, Terence (2016)**; *Teaching Associate Professor, Department of Mechanical Engineering and Engineering Science;* B.S., University of North Carolina at Charlotte; M.S., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Fakhro, Dania (2023)**; *Assistant Professor, Department of Counseling;* B.S., Aleppo University; Graduate Diploma, Cambridge College International; M.A., Rollins College; Ph.D., University of Central Florida

**Faklaris, Cori N. (44788)**; *Assistant Professor, Department of Software and Information Systems;* B.S., University of Illinois - Urbana-Champaign; M.S., Indiana University; Ph.D., Carnegie Mellon University

**Falaggis, Konstantinos (2017)**; *Assistant Professor, Department of Mechanical Engineering and Engineering Science;* B.S., Hamburg University of Technology, Germany; M.E., Hamburg University of Technology, Germany; Ph.D., University of Leeds, England

**Falconer, Steven (2015)**; *Professor, Department of Anthropology;* M.A., University of Arizona; Ph.D., University of Arizona

**Fall, Patricia L. (2015)**; *Professor, Department of Earth, Environmental, and Geographical Sciences;* B.A., Prescott College; M.S., University of Arizona; Ph.D., University of Arizona

**Fan, Jianping (2001)**; *Professor, Department of Computer Science;* M.S., Northwest University, China; Ph.D., Chinese Academy of Sciences, China

**Fan, Liyue (2019)**; *Associate Professor, Department of Computer Science;* B.S., Zhejiang University, China; Ph.D., Emory University

**Fan, Wei (2013)**; *Professor, Department of Civil and Environmental Engineering;* B.S., Tongji University, China; M.S., Tongji University, China; Ph.D., University of Texas at Austin

**Farney, Lori A. (2012)**; *Lecturer, Department of Sociology;* B.S., Middle Tennessee State University; M.A., Middle Tennessee State University

**Faust, Mark E. (2003)**; *Associate Professor, Department of Psychological Science;* B.A., University of Washington; M.S., University of Oregon; Ph.D., University of Oregon

**Feng, Hongsong (45880)**; *Assistant Professor, Department of Mathematics and Statistics;* Ph.D., University of Alabama; M.Sc., Texas A&M University; B.Sc., Shandong Normal University, China; A.A.,

**Ferdinando, Peter (2016)**; *Visiting Lecturer, Department of History;* B.A., University of Central Florida; M.A., Florida Atlantic University; Ph.D., Florida International University

**Ferdous, Farzana (2020)**; *Lecturer, Department of Biological Sciences;* M.S., Clemson University; Ph.D., Clemson University

**Fernandes, Anthony M.A. (2007)**; *Professor, Department of Mathematics and Statistics;* B.Sc., St. Xavier's College, India; M.Sc., University of Mumbai, India; Ph.D., University of Arizona

**Fernandez Sanchez, Paloma (2017)**; *Lecturer, Department of Languages, Cultures, and Translation;* B.A., University of Alcalá, Spain; M.A., University of Alcalá, Spain; M.A., Loyola University Chicago; Ph.D., Indiana University Bloomington

**Ferrante, Frances A. (2018)**; *Clinical Assistant Professor, School of Social Work;* B.S., Concordia College; M.S.W., New York University

**Fessler, Adam Bradley (2021)**; *Lecturer, Department of Chemistry;* B.S., University of North Carolina at Charlotte; M.S., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Fifield, Austin (2020)**; *Lecturer, Department of Engineering Technology and Construction Management;* B.S.E.T., University of North Carolina at Charlotte.

**Fillmore Jr., David M. (2004)**; *Professor, Department of Theatre;* B.A., Moorhead State University; M.F.A., Northwestern University

**Finley, Kelly (2008)**; *Lecturer, Department of Anthropology;* B.A., University of North Carolina at Charlotte; M.A., University of Alabama

**Fisher, Thomas E. (2014)**; *Clinical Assistant Professor, Office of School and Community Partnerships, Cato College of Education;* B.A., University of North Carolina at Charlotte; M.Ed., University of North Carolina at Charlotte; Ed.D., University of North Carolina at Charlotte

**Fitzgerald, Miranda S. (2019)**; *Associate Professor, Department of Reading and Elementary Education;* B.S., University of Evansville; M.A., Georgetown College; Ph.D., University of Michigan

**Fitzgerald, Scott (2003)**; *Department Chair and Professor, Department of Sociology;* B.A., Luther College; M.A., Iowa State University; Ph.D., University of Iowa

**FitzPatrick, Erin (2017)**; *Associate Professor, Department of Special Education and Child Development;* B.A., Illinois College; M.Ed., Middle Tennessee State University; Ph.D., Georgia State University

**Flint, Karen E. (2001)**; *Co-Director of Public History; and Associate Professor, Department of History;* B.A., Lawrence University; M.A., University of California, Los Angeles

**Flores, Wilfredo A. (44788)**; *Asst Prof/Director WRC, Department of Writing, Rhetoric, and Digital Studies;* B.A., University of Texas at San Antonio; M.A.T., Texas Tech University; Ph.D., Michigan State University

**Fodor, Anthony A. (2006)**; *Professor, Department of Bioinformatics and Genomics;* B.A., Vassar College; Ph.D., University of Washington

**Foley, Jonathan J. (2022)**; *Associate Professor, Department of Chemistry;* B.S., Georgia Institute of Technology; M.S., University of Chicago; Ph.D., University of Chicago

**Forget, Thomas (2008)**; *Associate Professor, David R. Ravin School of Architecture;* B.A., Columbia University; M.A., Yale University; M.Arch., Princeton University

**Forthofer, Melinda (2016)**; *Associate Dean for Academic Affairs, Department of Epidemiology and Community Health; Professor;* B.A., Case Western Reserve University; Ph.D., University of Michigan

**Fox, Cynthia T. (2002)**; *Lecturer, Department of Marketing;* B.A., Wofford College; M.B.A., University of North Carolina at Charlotte

**Fox, Robert W. (44929)**; *Senior Lecturer, School of Data Science;* B.S., Kansas State University; M.S., University of North Carolina at Charlotte

**Foxx, Sejal Parikh (2013)**; *Department Chair and Professor, Department of Counseling;* B.A., University of North Florida; M.Ed., University of North Florida; Ph.D., University of North Carolina at Charlotte

**Fraher, Andrew (2023)**; *Visiting Clinical Assistant Professor, Department of Business Information Systems and Operations;* B.S., Chemical Engineering University; M.B.A., University of Connecticut; D.B.A., University of North Carolina at Charlotte

**Fraiser, Matthew (2015)**; *Lecturer and Technical Director, Performing Arts Services, College of Arts + Architecture;* B.A., Gardner-Webb University; M.F.A., Florida State University

**Frakes, James (2002)**; *Professor, Department of Art and Art History;* B.A., Indiana University; M.A., Columbia University; M.Phil., Columbia University; Ph.D., Columbia University

**Frank, Cynthia F. (2018)**; *Lecturer, Department of Art and Art History;* B.A., Yale University; M.F.A., Yale University

**Fratantuono, Ella (2016)**; *Associate Professor, Department of History;* B.A., University of Richmond; Ph.D., Michigan State University

**Freeman, Rodney E. (44802)**; *Assistant Professor Librarian, J. Murrey Atkins Library;* B.S., Indiana State University; M.P.A., Indiana State University; M.L.S., Purdue University - Indianapolis

**Fried, Nathaniel M. (2006)**; *Professor, Ishwar Aggarwal Department of Physics and Optical Science;* B.A., Swarthmore College; M.S., Rensselaer Polytechnic Institute; Ph.D., Northwestern University

**Frisch, Miranora O. (2007)**; *Professor, Department of Music;* B.A., Saint Olaf College; M.M., Cleveland Institute of Music; D.M.A., University of Minnesota

**Fu, Chenglong (44788)**; *Assistant Professor, Department of Software and Information Systems;* B.S., University of Science and Technology of China; Ph.D., Temple University

**Fuentes, Catherine M. (2008)**; *Professor, Department of Anthropology;* B.A., North Carolina State University; M.A., University of Connecticut; Ph.D., University of Connecticut

**Funk Johnson, Kristen E. (2019)**; *Assistant Professor, Department of Biological Sciences;* B.A., Miami University; Ph.D., Ohio State University

**Furr-Rogers, Samantha (2018)**; *Lecturer, Department of Biological Sciences;* B.S., University of North Carolina at Charlotte; M.P.H., University of Virginia; Ph.D., University of North Carolina at Charlotte

**Futrell, Benjamin J. (2008)**; *Lecturer, David R. Ravin School of Architecture;* B.A., University of North Carolina at Charlotte; M.Arch., University of North Carolina at Charlotte

**Gabriel, Amanda T. (2014)**; *Lecturer, Turner School of Accountancy;* B.S., North Carolina State University; M.Acc., University of North Carolina at Charlotte

**Gadaire, Andrew (2023)**; *Assistant Professor, Department of Earth, Environmental, and Geographical Sciences;* B.S., Davidson College; M.A., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Gafford, James R. (2018)**; *Professor of Practice and Assistant Director of Research and Special Projects, Energy Production and Infrastructure Center (EPIC);* B.S., Christian Brothers University; M.S., Mississippi State University

**Gaggl, Paul (2012)**; *Associate Professor, Department of Economics;* M.A., University of Vienna; M.A., University of California, Davis; Ph.D., University of California, Davis

**Gagne, Sara (2023)**; *Department Chair and Associate Professor, Department of Earth, Environmental, and Geographical Sciences;* B.S., McGill University; Ph.D., Carleton University

**Gagne, Sara A. (2010)**; *Associate Professor, Department of Earth, Environmental, and Geographical Sciences;* B.S., McGill University; Ph.D., Carleton University

**Gaitas, Angelo (45916)**; *Associate Professor, Department of Electrical and Computer Engineering;* Ph.D., Delft University of Technology, Delft, Netherlands; M.B.A., University of Wisconsin; M.S., University of London; B.S., University of Wales

**Galati, Alexia (2018)**; *Associate Professor, Department of Psychology;* B.A., Stanford University; M.A., The University of Chicago; M.A., State University of New York at Stony Brook; Ph.D., State University of New York at Stony Brook

**Gales, Altrice M. (2016)**; *Lecturer, Department of Criminal Justice and Criminology;* B.A., North Carolina State University; M.S., East Carolina University

**Gallicano, Tiffany (2016)**; *Associate Professor, Department of Communication Studies;* B.A., Willamette University; M.A., University of Maryland; Ph.D., University of Maryland

**Gaméz, José L.S. (2002)**; *Dean, College of Arts + Architecture; Professor, School of Architecture*; B.A., Texas A&M University; M.Arch., University of California, Berkeley; Ph.D., University of California, Los Angeles

**Gandar, John M. (1982)**; *Professor, Department of Economics;* B.A., Massey University; M.A., Victoria University; M.A., University of Missouri-Columbia; Ph.D., University of Missouri-Columbia

**Gao, Wei (2019)**; *Lecturer, Department of Electrical and Computer Engineering;* B.S., Tsinghua University, China; M.S., General Research Institute For Nonferrous Metals, China; Ph.D., Abertay University, Scotland

**Gao, Wenyu (2023)**; *Assistant Professor, Department of Mathematics and Statistics;* B.S., University of Hong Kong; M.A., Columbia University; Ph.D., Virginia Tech University

**Gao, Zheming (2025)**; *Assistant Professor, Department of Industrial and Systems Engineering;* B.S., Bei hang University, China; M.S., Texas A&M University; M.S., North Carolina State University; Ph.D., North Carolina State University

**Garcia, William J. (2004)**; *Lecturer, Department of Earth, Environmental, and Geographical Sciences;* B.A., Washington and Lee University; M.S., Fort Hays State University

**Garcia Leon, Javier E. (2019)**; *Associate Professor, Department of Languages, Cultures, and Translation;* B.Ed., National Pedagogic University, Colombia; M.A., National University of Colombia; Ph.D., University of Ottawa, Canada

**Gardenal Augusto, Danillo (44788)**; *Associate Professor, Department of Biological Sciences;* B.S., Federal University of Parana, Brazil; M.S., Federal University of Parana, Brazil; Ph.D., Federal University of Parana, Brazil

**Gartland, Christopher (45880)**; *Assistant Professor, Department of Mathematics and Statistics;* Ph.D., University of Illinois at Urbana-Champaign; M.S., Virginia Tech University; B.S., Virginia Tech University; B.S., Virginia Tech University

**Gaultney, Jane F. (1992)**; *Professor, Department of Psychological Science;* B.A., Palm Beach Atlantic University; M.A., Florida Atlantic University; Ph.D., Florida Atlantic University

**Gbur, Greg J. (2004)**; *Professor, Ishwar Aggarwal Department of Physics and Optical Science;* B.A., The University of Chicago; M.A., University of Rochester; Ph.D., University of Rochester

**Ge, Eva (2023)**; *Assistant Professor, Department of Chemistry;* B.A., Cornell University; Ph.D., Princeton University

**Ge, Yaorong (2012)**; *Professor, Department of Software and Information Systems;* B.S., Zhejiang University, China; M.S., Vanderbilt University; Ph.D., Vanderbilt University

**Ge, Yong (2013)**; *Assistant Professor, Department of Computer Science;* B.S., Xi'an Jiao tong University, China; M.S., University of Science and Technology of China; Ph.D., Rutgers University

**Gehrig, Bruce (2002)**; *Undergraduate Coordinator and Associate Professor, Department of Engineering Technology and Construction Management;* B.S., Brigham Young University; M.S., University of Colorado at Boulder at Denver

**Gentry, Thomas A. (2007)**; *Associate Professor, David R. Ravin School of Architecture;* B.Arch., University of Arizona; M.Arch., Illinois Institute of Technology

**Gerardy, Christopher L. (2014)**; *Lecturer, Ishwar Aggarwal Department of Physics and Optical Science;* B.S., California Institute of Technology; Ph.D., Dartmouth College

**Gerges, Awad S. (2012)**; *Lecturer, Ishwar Aggarwal Department of Physics and Optical Science;* M.Sc., Military Technical College, Egypt; Ph.D., University of Kent, England

**Ghali, Noha (2017)**; *Lecturer, Department of Languages, Cultures, and Translation;* B.A., Alexandria University, Egypt; M.A., American University in Cairo, Egypt

**Ghasemi, Amirhossein (2017)**; *Associate Professor, Department of Mechanical Engineering and Engineering Science;* B.S.M.E., Ferdowsi University of Mashad, Iran; M.S.M.E., Amir Kabir University of Technology, Iran; Ph.D., University of Kentucky

**Ghosh, Aloke (2019)**; *Distinguished Professor of Accounting, Turner School of Accountancy;* B.S., St. Xavier's College, India; M.A., Tulane University; Ph.D., Tulane University

**Gibas, Cynthia J. (2005)**; *Interim Department Chair and Professor, Department of Bioinformatics and Genomics;* B.A., Lawrence University; Ph.D., University of Illinois at Urbana-Champaign

**Gibbons, Julie W. (2016)**; *Lecturer, School of Nursing;* B.S.N., Georgetown University; M.P.H., University of North Carolina at Chapel Hill

**Gibson, Simon (2017)**; *Professor of Practice, Department of History;* B.A., UCL Institute of Archaeology, England; Ph.D., University of London, England

**Giersch, Jason (2013)**; *Associate Professor, Department of Political Science and Public Administration;* B.A., College of William & Mary; M.Ed., Pennsylvania State University; Ph.D., University of North Carolina at Charlotte

**Gilbert, Katelyn R. (2020)**; *Lecturer, College of Education;* B.A., University of North Carolina at Charlotte; M.Ed., University of North Carolina at Charlotte

**Gillani, Braveheart (45880)**; *Assistant Professor, School of Social Work;* Ph.D., Case Western Reserve University; M.S.W., Washington University, St. Louis; B.S., University of Houston

**Gilman, Caitlin (2023)**; *Visiting Lecturer, Department of Mathematics and Statistics;* A.A., Cape Fear Community College; B.S., University of North Carolina at Charlotte; M.S., University of North Carolina at Charlotte; M.S., University of North Carolina at Charlotte

**Gil-Rivas, Virginia (2003)**; *Professor, Department of Psychological Science;* B.A., Universidad Veracruz Ana, Mexico; M.A., California State University, Dominguez Hills; Ph.D., University of California, Irvine

**Gilson, Cindy (2014)**; *Associate Dean and Professor, Honors College;* B.S., University of Connecticut; M.A., University of Connecticut; Ph.D., University of Connecticut

**Gin, Matthew T. (44788)**; *Assistant Professor, David R. Ravin School of Architecture;* B.A., B.M., Oberlin College; M.E.D., Yale University; A.M., Harvard University; Ph.D., Harvard University

**Glass, Tehia Starker (2008)**; *Interim Executive Director of Center for ADVANCing Faculty Success, Department of Reading and Elementary Education; Professor;* B.S., Bethune-Cookman University; M.A., University of Northern Iowa; Ph.D., University of Nebraska-Lincoln

**Godev, Concepción B. (1998)**; *Professor, Department of Languages, Cultures, and Translation;* B.A., University of Malaga; M.A., Pennsylvania State University; Ph.D., Pennsylvania State University

**Godfrey-Hurrell, Jessica K. (2019)**; *Clinical Assistant Professor, Department of Special Education and Child Development;* B.A., University of North Carolina at Charlotte; M.Ed., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Godin, Yuri (2003)**; *Associate Professor, Department of Mathematics and Statistics;* M.S., St. Petersburg State Technical University, Russia; D.Sc., Technion-Israel Institute of Technology, Israel

**Godlewska, Maja (2004)**; *Professor, Department of Art and Art History;* M.F.A., Eugeniusz Geppert Academy of Fine Arts, Poland

**Godly-Reynolds, Erin (2019)**; *Lecturer, Department of Psychological Science;* B.A., Marist College; M.A.Ed., Wingate University; M.A., University of North Carolina at Charlotte

**Goff, Andrew (2023)**; *Lecturer, Department of Biological Sciences;* A.A., Pitt Community College; B.S., University of North Carolina at Wilmington; M.S., University of North Carolina at Wilmington

**Goff, Andrew D. (44788)**; *Visiting Lecturer, Department of Biological Sciences;* A.A., Pitt Community College; B.S., University of North Carolina at Wilmington; M.S., University of North Carolina at Wilmington

**Goff, John (2020)**; *Lecturer, Department of Engineering Technology and Construction Management;* B.S., Western Carolina University; M.S., Western Carolina University

**Gokmen, Sabri (2024)**; *Assistant Professor, David R. Ravin School of Architecture;* B.S., Middle East Technical University; M.S., Georgia Institute of Technology; Ph.D., Georgia Institute of Technology

**Goldfield, David R. (1982)**; *Robert Lee Bailey Professor of History, Department of History;* B.A., Brooklyn College; M.A., University of Maryland; Ph.D., University of Maryland

**Golmohammadi, Alireza (2021)**; *Assistant Professor, Department of Marketing;* Ph.D., University of Arkansas

**Gomoluch, Susanne (2016)**; *Lecturer, Department of Languages, Cultures, and Translation;* M.A., Ruhr-University Bochum, Germany; M.A., University of North Carolina at Chapel Hill; Ph.D., University of North Carolina at Chapel Hill

**Gonzalez, Victoria (45880)**; *Clinical Assistant Professor, Department of Business Information Systems and Operations;* Ph.D., State University of New York at Buffalo; M.Sc., University of Chile, Santiago; B.S., University of Chile, Santiago

**Gonzalez-Calderon, Carlos (45880)**; *Assistant Professor, Department of Civil and Environmental Engineering;* Ph.D., Rensselaer Polytechnic Institute; M.P.H., University College, London; M.E., Rensselaer Polytechnic Institute; M.S., Universidad Nacional de Colombia; B.S., Universidad Nacional de Colombia

**Good, Amy J. (2008)**; *Professor, Department of Reading and Elementary Education;* B.S.Ed., Ohio University; M.Ed., Ohio University; Ph.D., University of Virginia

**Gooty, Janaki (2010)**; *Professor, Department of Management;* B.S., The National Institute of Engineering; M.B.A., University of Central Oklahoma; Ph.D., Oklahoma State University

**Gordon, Alexander Y. (2006)**; *Associate Professor, Department of Mathematics and Statistics;* M.S., Moscow State University, Russia; Ph.D., Moscow Institute of Electronic Engineering, Russia

**Gordon, Melodye A. (2016)**; *Visiting Lecturer, Department of Writing, Rhetoric, and Digital Studies;* B.S., University of North Carolina at Charlotte; M.A., University of North Carolina at Charlotte

**Gossett, Loril M. (2008)**; *Associate Professor, Department of Communication Studies;* B.A., University of Colorado at Boulder; Ph.D., University of Colorado at Boulder

**Gouthro, Susan (2024)**; *Assistant Professor, Department of Music;* B.A., Queen's University, Canada; B.M., Queen's University, Canada; D.M.A., James Madison University

**Govias, Jonathan (2013)**; *Assistant Professor, Department of Music;* B.Mus., University of Victoria; M.M., University of Denver; D.Mus., McGill University

**Grabchak, Michael (2011)**; *Professor, Department of Mathematics and Statistics;* B.A., Cornell University; M.S., Cornell University; Ph.D., Cornell University

**Grace, Kazjon S. (2015)**; *Research Assistant Professor, Department of Software and Information Systems;* B.S., University of Sydney, Australia; Ph.D., University of Sydney, Australia

**Graham, Ronald S. (2020)**; *Lecturer, Department of Engineering Technology and Construction Management;* B.S.M.E., West Virginia University; B.Engr.., Colorado State University

**Grandinetti, Justin (2019)**; *Associate Professor, Department of Communication Studies;* B.S., James Madison University; M.A., James Madison University; Ph.D., North Carolina State University

**Grano, Daniel A. (2004)**; *Department Chair and Professor, Department of Communication Studies;* B.A., University of Memphis; M.A., Louisiana State University; Ph.D., Louisiana State University

**Grant, Lynnore (2025)**; *Assistant Professor, Department of Mechanical Engineering and Engineering Science;* B.Sc., West Virginia University; Ph.D., Rice University

**Grant, Ryan (45880)**; *Assistant Professor, Department of Psychological Science;* Ph.D., University of Georgia; M.S., University of Georgia; B.A., North Central College

**Graves, William (2000)**; *Professor, Department of Earth, Environmental, and Geographical Sciences;* B.A., University of North Carolina at Chapel Hill; M.A., University of Georgia; Ph.D., University of Georgia

**Grdzelishvili, Valery Z. (2006)**; *Professor, Department of Biological Sciences;* B.S., Moscow State University, Russia; M.S., Moscow State University, Russia; Ph.D., Moscow State University, Russia

**Green, Courtney S. (2015)**; *Lecturer, Department of Engineering Technology and Construction Management;* B.S., Marshall University; M.S.E., University of North Carolina at Charlotte

**Green, Garth L. (2004)**; *Lecturer, Department of Anthropology;* B.A., Duke University; M.A., New School for Social Research; Ph.D., New School for Social Research

**Greene, Tisha R. (2018)**; *Associate Dean for Undergraduate Programs and Student Success, Cato College of Education; Clinical Assistant Professor, Department of Educational Leadership*; B.A., University of North Carolina at Charlotte; M.A., University of North Carolina at Charlotte; Ed.S., Wingate University; Ed.D., Wingate University

**Griffin, Autumn (45880)**; *Assistant Professor of Urban Education, Department of Middle Grades, Secondary & K-12;* Ph.D., University of Maryland; M.S.Ed., University of Pennsylvania; B.A., Pennsylvania State University

**Griffin, Willie J. (44788)**; *Assistant Professor, Honors College;* B.A., Morehouse College; M.A., Morgan State University; Ph.D., University of North Carolina at Chapel Hill

**Grigorova, Miryana (2017)**; *Assistant Professor, Department of Mathematics and Statistics;* B.S., Paris Dauphine University; Ph.D., Paris Diderot University (Paris 7)

**Grymes, James (Jay) (2002)**; *Professor, Department of Music;* B.M., Virginia Commonwealth University; M.M., Florida State University; Ph.D., Florida State University

**Gullena, Emily S. (44788)**; *Lecturer, School of Nursing;* A.A., Grand Rapids Community College; A.D.N., Grand Rapids Community College; B.S.N., Ferris State University; M.S.N., Ferris State University

**Gunn, Laura H. (2018)**; *Professor, Department of Epidemiology and Community Health;* B.A., Jacksonville University; M.S., Duke University; Ph.D., Duke University

**Gunter, Donna (2001)**; *Associate Professor and Humanities Librarian, J. Murrey Atkins Library;* B.A., University of North Carolina at Charlotte; M.A., Clemson University; M.L.S., University of South Carolina

**Guo, Jun-tao (2007)**; *Department Chair and Professor, Department of Bioinformatics and Genomics;* B.S., Nankai University, China; M.S., Nankai University, China; M.S., University of Kentucky; Ph.D., University of Kentucky

**Guo, Yuqi (2019)**; *Associate Professor, School of Social Work;* B.A., East China University of Science and Technology; M.S.W., University of Alabama; Ph.D., University of Alabama

**Gwyn, Aaron C. (2003)**; *Associate Professor, Department of English;* B.A., East Carolina University; M.A., Oklahoma State University; Ph.D., University of Denver

**Haber, Mason G. (2008)**; *Assistant Professor, Department of Psychological Science;* B.A., University of Michigan; M.A., Wayne State University; Ph.D., Wayne State University

**Hackett, Michael E. (2011)**; *Assistant Professor, Department of Music;* B.M., Indiana University Bloomington; M.M., Indiana University Bloomington; D.M., Indiana University Bloomington

**Hague, Douglas (2019)**; *Executive Director and Professor of Practice, School of Data Science;* B.S., University of Tulsa; M.S., Pennsylvania State University; Ph.D., Pennsylvania State University

**Haldeman, Randal K. (2004)**; *Professor, Department of Music;* B.M., University of Wisconsin-Whitewater; M.M., Northwestern University; Ph.D., Florida State University

**Hales, Travis W. (2018)**; *Associate Professor, School of Social Work;* B.A., State University of New York at Fredonia; M.S.W., University at Buffalo; Ph.D., University at Buffalo

**Hall, John (2023)**; *Assistant Professor, EPIC;* B.S., Missouri University of Science and Technology; M.S., University of Texas at Austin; Ph.D., University of Texas at Austin

**Hall, Robert Mark (2020)**; *Department Chair and Professor, Department of Writing, Rhetoric, and Digital Studies;* B.A., Emory University; M.A., University of Alabama; Ph.D., University of Louisville

**Hall-Hertel, Katherine (2007)**; *Associate Dean for Curriculum, Graduate School;* B.A., California State University; M.A., Catholic University of America; Ed.D., George Washington University

**Hammelman, Colleen (2017)**; *Associate Professor, Department of Earth, Environmental, and Geographical Sciences;* B.A., Colorado State University; M.A., American University; Ph.D., Temple University

**Han, Sungil (44743)**; *Associate Professor, Department of Criminal Justice and Criminology;* B.A., Kyong University; M.A., Kyong University; Ph.D., University of Central Florida; Ph.D., University of Texas at Dallas

**Han, Yufeng (2016)**; *Professor, Department of Finance;* B.S., Tsinghua University, China; M.A., State University of New York at Buffalo; M.S., Washington University in St. Louis; Ph.D., Washington University in St. Louis

**Hancock, Cynthia (2006)**; *Lecturer, Department of Sociology;* B.S., Shepherd College; M.A., University of North Carolina at Chapel Hill; Ph.D., University of North Carolina at Chapel Hill

**Hardman, Kristi (2023)**; *Assistant Professor, Department of Music;* B.Ed., University of Manitoba; B.Mus., University of Manitoba; M.A., University of British Columbia; Ph.D., The City University of New York Graduate School and University Center

**Harkins, Margaret S. (2011)**; *Lecturer, The William States Lee College of Engineering;* B.S.C.E., Drexel University; M.S., Drexel University

**Harmeling, Kendyl (45880)**; *Assistant Teaching Professor, Department of Writing, Rhetoric, and Digital Studies;* Ph.D., University of Louisville; M.A., University of Louisville; B.A., Western Connecticut State University

**Harris, Henry (Hank) L. (2004)**; *Assistant Dean and Director of Academic and Career Coaching, Department of Counseling;* B.A., University of North Carolina at Wilmington; M.Ed., University of North Carolina at Chapel Hill; Ph.D., University of Virginia

**Harris, Melanie L. (2001)**; *Assistant Dean and Director of Academic and Career Coaching, Department of Biological Sciences; Lecturer;* Dipl., Universite Daix-end-Provence, France; B.A., University of North Carolina at Charlotte; M.S., University of North Carolina at Charlotte

**Harris, Michelle (2024)**; *Associate Professor, Department of Criminal Justice and Criminology;* B.A., University of Arkansas; M.A., Georgia State University; Ph.D., Georgia State University

**Harris, Ryan L. (2017)**; *Associate Dean for Public Services, J. Murrey Atkins Library;* B.A., University of California, San Diego; M.L.I.S., Louisiana State University

**Hart, Walter H. (2018)**; *Clinical Assistant Professor, Department of Educational Leadership;* B.A., Wake Forest University; M.Ed., University of North Carolina at Charlotte; Ed.D., University of North Carolina at Charlotte

**Hartley, Andrew J. (2005)**; *Russell M. Robinson II Distinguished Professor of Shakespeare; Professor, Department of Theatre;* B.A., University of Manchester; M.A., Boston University; Ph.D., Boston University

**Hartman, James J. (2017)**; *Lecturer, Office of Student Development and Success, The William States Lee College of Engineering;* B.S., Wayne State University; M.B.A., University of Central Florida

**Hartman, Jennifer L. (2002)**; *Associate Professor, Department of Criminal Justice and Criminology;* B.A., Loyola College of Baltimore; M.S., University of Baltimore; Ph.D., University of Cincinnati

**Hashempour, Javad (2019)**; *Assistant Professor, Department of Engineering Technology and Construction Management;* B.S., National Technical University of Ukraine; M.S., University of Manchester, England; Ph.D., University of Southern Queensland, Australia

**Hauser, Edwin (2000)**; *Director of Transportation Studies; Professor, Department of Earth, Environmental, and Geographical Sciences; Professor, Department of Civil and Environmental Engineering*; B.S., North Carolina State University; M.A., University of North Carolina at Chapel Hill; Ph.D., North Carolina State University

**Hawkins, Denise (45880)**; *Clinical Assistant Professor, Department of Counseling;* Ph.D., University of Georgia; Ed.S., Argosy University; M.S., California State University; B.A., Chapman University

**Hayes, Nathan (2023)**; *Assistant Professor of Management, Department of Management;* B.S., Texas Tech University; Ph.D., Louisiana State University

**Haynes, Christine (2002)**; *Professor, Department of History;* B.A., University of Michigan; M.A., The University of Chicago; Ph.D., The University of Chicago

**Haynes, Tabitha R. (2021)**; *Clinical Assistant Professor, Department of Counseling;* B.A., University of North Carolina at Wilmington; M.A., North Carolina Central University; Ph.D., North Carolina State University

**He, Xiuli (2008)**; *Professor, Department of Business Information Systems and Operations Management;* Bachelor's, Shanghai Tie Dao University, China; M.S., Shanghai Jiao Tong University, China; Ph.D., University of Texas at Austin

**Heafner, Tina (2002)**; *Professor, Department of Middle, Secondary, and K-12 Education;* B.A., Wake Forest University; M.A., Wake Forest University; Ph.D., University of North Carolina at Greensboro

**Heberlig, Eric (2000)**; *Professor, Department of Political Science and Public Administration;* B.A., Franklin and Marshall College; M.A., Ohio State University; Ph.D., Ohio State University

**Heggestad, Eric D. (2005)**; *Associate Provost for Faculty Affairs, Department of Psychological Science;* B.A., Saint Olaf College; M.A., University of Minnesota; Ph.D., University of Minnesota

**Height, Tatiana (45880)**; *Assistant Professor, Department of Africana Studies;* Ph.D., North Carolina State University; M.C.R.P., University of Nebraska; B.A., University of Nebraska

**Heindl, Ranko (45880)**; *Assistant Teaching Professor, Ishwar Aggarwal Department of Physics and Optical Science;* Ph.D., University of South Florida; M.S., University of South Florida; B.S., University of South Florida; Diploma, Ruhr University Bochum

**Helmy, Ahmed (2022)**; *Associate Dean for Research, College of Computing and Informatics; Professor, Department of Computer Science*; B.Sc., Cairo University, Egypt; M.S., University of Southern California; Ph.D., University of Southern California

**Her, Tsing Hua (2003)**; *Professor, Ishwar Aggarwal Department of Physics and Optical Science;* B.S., National Tsing Hua University, Taiwan; Ph.D., Harvard University

**Hernandez, Jessica (2023)**; *Lecturer, School of Nursing;* B.S.N., East Carolina University; M.S.N., East Carolina University

**Hetyei, Gabor (2000)**; *Professor, Department of Mathematics and Statistics;* M.S., Eötvös Loránd University, Hungary; Ph.D., Massachusetts Institute of Technology

**Hewlin, Rodward (2017)**; *Associate Professor, Department of Engineering Technology and Construction Management;* B.S., North Carolina A&T State University; M.S., North Carolina A&T State University; Ph.D., North Carolina A&T State University

**Hildreth, John C. (2008)**; *Associate Professor, Department of Engineering Technology and Construction Management;* B.S., West Virginia University; M.S., West Virginia University; Ph.D., Virginia Polytechnic Institute and State University

**Hill, Raquel (2016)**; *Lecturer, School of Nursing;* B.S.N., Marshall University; M.S.N., Walden University

**Hines, Robert (2023)**; *Assistant Professor, Department of Political Science and Public Administration;* B.A., University of Georgia; M.P.A., University of Georgia; Ph.D., University of Georgia

**Hippensteel, Scott (2002)**; *Professor, Department of Earth, Environmental, and Geographical Sciences;* B.S., Shippensburg University; M.S., University of Delaware; Ph.D., University of Delaware

**Hobbs, Erica N. (2015)**; *Lecturer, Office of School and Community Partnerships, Cato College of Education;* B.S., Winston-Salem State University; M.Ed., Montreat College

**Hochhalter, Aspen N. (2007)**; *Associate Professor, Department of Art and Art History;* B.F.A., Creighton University; M.F.A., East Carolina University

**Hodge, Susan S. (2008)**; *Lecturer, Department of Criminal Justice and Criminology;* B.S., Appalachian State University; M.S., University of North Carolina at Charlotte

**Hodgins, M. Garry (2007)**; *Lecturer, Department of Mechanical Engineering and Engineering Science;* B.S., Hampden-Sydney College; Ph.D., University of Virginia

**Hoenes, Eric (2013)**; *Associate Professor, Department of Religious Studies;* B.A., Boston University; M.A., University of California, San Diego; Ph.D., University of California, San Diego

**Hogan, Kathleen J. (2014)**; *Professor, Department of English;* B.B.A., Western Connecticut State University; M.A., Northeastern University; Ph.D., Rutgers University

**Holleman, Jeremy (2016)**; *Associate Professor, Department of Electrical and Computer Engineering;* B.S., Georgia Institute of Technology; M.S., University of Washington; Ph.D., University of Washington

**Homann, Lisa (2014)**; *Associate Professor, Department of Art and Art History;* B.A., University of Washington; M.A., University of California; Ph.D., University of California, Los Angeles

**Hong, Tao (2013)**; *Professor, Department of Industrial and Systems Engineering;* B.S.E., Tsinghua University, China; M.S., North Carolina State University; Ph.D., North Carolina State University

**Hoover, Fushcia-Ann (2021)**; *Assistant Professor, Department of Earth, Environmental, and Geographical Sciences;* B.S., University of St. Thomas; M.S., Purdue University; Ph.D., Purdue University

**Hopper, Lorenzo (2018)**; *Lecturer, Department of Epidemiology and Community Health;* B.A., University of North Carolina at Chapel Hill; M.P.H., East Carolina University

**Hopper, Lorenzo N. (2018)**; *Lecturer, Department of Epidemiology and Community Health;* B.A., University of North Carolina at Chapel Hill; M.P.H., East Carolina University

**Horger, Jacob (2010)**; *Lecturer, Department of Chemistry;* B.S., Beloit College; Ph.D., University of South Carolina at Columbia

**Horne, Carolyn E. (2022)**; *Associate Professor, School of Nursing;* B.S.N., East Carolina University; M.S.N., East Carolina University; Ph.D., East Carolina University

**Horne, Timothy S. (2006)**; *Senior Lecturer, Department of Communication Studies;* B.A., University of North Carolina at Charlotte; M.A., University of North Carolina at Charlotte

**Houck, Charles W. (2008)**; *Lecturer, Department of Global Studies;* B.A., Davidson College; M.A., Tulane University; Ph.D., Tulane University

**Howell, Catherine (Katie) C. (2016)**; *Associate Dean for Special Collections & University Archives, J. Murrey Atkins Library;* B.A., DePaul University; M.S.I.S., University of Texas at Austin

**Howell, Cathy D. (2017)**; *Clinical Assistant Professor, Department of Educational Leadership;* B.S., East Carolina University; M.A., East Carolina University; Ph.D., University of North Carolina at Charlotte

**Howitt, Ivan (2002)**; *Associate Professor, Department of Electrical and Computer Engineering;* B.S.E., Georgia Institute of Technology; M.S., Georgia Institute of Technology; Ph.D., University of California, Davis

**Hsiang, Simon M. (2015)**; *Department Chair and Professor, Department of Industrial and Systems Engineering;* B.S., Feng Chia University; M.S., Texas Tech University; Ph.D., Texas Tech University

**Hsu, Frances (2019)**; *Visiting Associate Professor, David R. Ravin School of Architecture;* B.S., University of Virginia; M.Arch., Harvard University; Ph.D., Swiss Federal Institute of Technology

**Huang, Ming-Chang (2011)**; *Clinical Assistant Professor, Department of Business Information Systems and Operations Management;* B.S., National Tsing Hua University, Taiwan; M.S., University of Wisconsin-Madison; Ph.D., University of Wisconsin-Milwaukee

**Huerta, Jill (2018)**; *Assistant Dean and Director of the Reynolds Center for Graduate Life and Learning, Center for Graduate Life and Learning; Executive Director;* B.A., University of Michigan-Ann Arbor; M.A., Central Michigan University; Ph.D., Michigan State University

**Huet, Yvette M. (1991)**; *Dean, ADVANCE Faculty Affairs and Diversity Office; Professor, Department of Biological Sciences*; B.A., University of Kansas at Lawrence; Ph.D., University of Kansas Medical Center

**Hughes, Charles D. (44788)**; *Lecturer, Department of Business Information Systems and Operations Management;* B.A., University of North Carolina at Charlotte; M.B.A., University of North Carolina at Charlotte

**Hull, Gordon (2008)**; *Professor, Department of Philosophy;* B.A., Wake Forest University; M.A., Vanderbilt University; Ph.D., Vanderbilt University

**Hunt, Tanya M. (2015)**; *Assistant Dean of Student Services, College of Humanities & Earth and Social Sciences;* B.A., West Virginia University; M.A., Liberty University

**Hussey, Erica (45880)**; *Assistant Professor, Department of English;* M.F.A., University of Alabama; M.A., Johns Hopkins University; B.A., University of Texas

**Hutchcraft, Allison M. (44743)**; *Writer in Res/Asst Teach Prof, Department of English;* B.A., Lewis & Clark College; M.F.A., Purdue University

**Hutchens, Thomas C. (2021)**; *Research Assistant Professor, Ishwar Aggarwal Department of Physics and Optical Science;* B.S., University of North Carolina at Charlotte; M.S., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Inabnit, Lanny S. (2014)**; *Clinical Assistant Professor, Department of Applied Physiology, Health, and Clinical Sciences;* B.S., East Carolina University; M.S., Northeastern University

**Ingram, Suzanne E. (2011)**; *Lecturer, Department of English;* B.S., Appalachian State University; M.A., Appalachian State University

**Ivanina, Anna V. (2017)**; *Research Assistant Professor, Department of Biological Sciences;* B.S., Kazan State University, Russia; M.S., Russian Academy of Sciences; Ph.D., Kazan State Academy of Veterinary Medicine, Russia

**Jackson, Tiffany L. (2022)**; *Clinical Assistant Professor, School of Nursing;* B.S.N., Waynesburg University; M.S.N., Duquesne University; D.N.P., Chatham University

**Jackson, Tony E. (1994)**; *Professor, Department of English;* B.A., University of South Carolina; M.A., University of Oregon; Ph.D., University of California, Los Angeles

**Jacob Machado, Denis (44788)**; *Assistant Professor, Department of Bioinformatics and Genomics;* B.S., University of Sao Paulo; M.S., University of Sao Paulo; Ph.D., University of Sao Paulo

**Jacobs, Donald J. (2005)**; *Professor, Ishwar Aggarwal Department of Physics and Optical Science;* A.S., Fulton-Montgomery Community College; B.S., Union College; M.S., Purdue University; Ph.D., Purdue University

**Jakeway, Angela (2014)**; *Lecturer, Department of Languages, Cultures, and Translation;* B.A., Pforzheim University of Applied Sciences; M.A.T., University of North Carolina at Charlotte

**Jalali, Nima (2015)**; *Associate Professor, Department of Marketing;* B.S., University of Isfahan, Iran; M.B.A., University of Tehran, Iran; Ph.D., University of Wisconsin-Milwaukee

**Jang, Jaeyoung (2024)**; *Assistant Professor, Department of Health Management and Policy;* B.S., Ewha Woman's University; M.A., Seoul National University; Ph.D., Seoul National University; Ph.D., Florida State University

**Janies, Daniel A. (2012)**; *Carol Grotnes Belk Distinguished Professor, Department of Bioinformatics and Genomics;* B.S., University of Michigan-Ann Arbor; Ph.D., University of Florida

**Janowiak, David (2023)**; *Department Chair and Professor, Department of Theatre;* B.A., Lakeland University; M.F.A., University of Wisconsin at Milwaukee

**Jarrett, Christopher H. (2009)**; *Director and Professor, David R. Ravin School of Architecture;* B.Arch., University of Oregon; M.S., Columbia University of New York

**Jason, Kendra J. (2015)**; *Interim Department Chair and Associate Professor, Department of Sociology;* B.A., Augusta State University; M.S., North Carolina State University; Ph.D., North Carolina State University

**Jeannot, Christopher S. (2008)**; *Lecturer, Department of English;* B.A., University of Missouri at Saint Louis; M.A., University of North Carolina at Charlotte

**Jeffers, William T. (2016)**; *Visiting Lecturer, J. Murrey Atkins Library;* B.A., University of North Carolina at Charlotte; M.A., University of North Carolina at Charlotte

**Jenkins, Mason Ryan (2021)**; *Clinical Assistant Professor, Department of Marketing;* B.A., University of North Carolina at Chapel Hill; M.A., Northeastern University; Ph.D., Northeastern University

**Jiang, Jiancheng (2007)**; *Professor, Department of Mathematics and Statistics;* B.S., Nankai University, China; M.A., Nankai University, China; Ph.D., Nankai University, China

**Jiang, Min (2007)**; *Professor, Department of Communication Studies;* B.A., Beijing Foreign Studies University, China; M.A., Beijing Foreign Studies University, China; Ph.D., Purdue University

**Johar, Monica S. (2006)**; *Professor, Department of Business Information Systems and Operations Management;* B.E., University of Pune, India; M.S., University of Texas at Dallas; Ph.D., University of Texas at Dallas

**Johnson, David (2009)**; *Professor, Department of History;* B.A., University of Nevada, Reno; M.A., California State University, Sacramento; Ph.D., University of California, Irvine

**Johnson, Elizabeth A. (2019)**; *Senior Lecturer, Department of Computer Science;* B.A., University of South Carolina; M.A., University of North Carolina at Charlotte; Ed.D., George Washington University

**Johnson, Morgan B. (2018)**; *Research Assistant Professor, Department of Biological Sciences;* B.S., College of William & Mary; M.S., University of Virginia; Ph.D., University of Virginia

**Johnson, Morgan B. (2018)**; *Research Assistant Professor, Department of Biological Sciences;* B.S., College of William & Mary; M.S., University of Virginia; Ph.D., University of Virginia

**Jones, April (2015)**; *Visiting Lecturer, Department of Theatre;* B.A., North Carolina Central University; M.F.A., Virginia Commonwealth University

**Jones, Kia F. (2012)**; *Lecturer, Department of Reading and Elementary Education;* B.S., University of North Carolina at Greensboro; M.A., North Carolina Agricultural and Technical State University

**Jones, Kim (2010)**; *Associate Professor, Department of Dance;* B.F.A., Marymount Manhattan College; M.F.A., Florida State University

**Jones Cameron, Shanice (2021)**; *Assistant Professor, Department of Communication Studies;* B.A., North Carolina Central University; M.A., University of North Carolina at Charlotte

**Jordan, Kathleen (2014)**; *Clinical Assistant Professor, School of Nursing;* B.S.N., D'Youville College; M.S., University of Rochester; D.N.P., University of South Alabama

**Juengst, Sara L. (2017)**; *Associate Professor, Department of Anthropology;* B.A., Vanderbilt University; Ph.D., University of North Carolina at Chapel Hill

**Jugan, Daniel J. (2013)**; *Lecturer, Department of Computer Science;* B.S.Ed., Appalachian State University; M.S., University of North Carolina at Charlotte

**Jutmaan, Yanjmaa (44788)**; *Assistant Teaching Professor, Department of Mathematics and Statistics;* B.S., Khan-Uul Institute of Mongolia; M.S., Korea Advanced Institute of Science and Technology; Ph.D., University of North Carolina at Charlotte

**Kaffen, Philip (2017)**; *Associate Professor, Department of Languages, Cultures, and Translation;* B.A., San Jose State University; M.A., University of Washington; Ph.D., New York University

**Kaloyanides, Alexandra (2017)**; *Associate Professor, Department of Religious Studies;* B.A., Columbia University; M.Phil., Yale University; Ph.D., Yale University

**Kamalasadan, Sukumar (2010)**; *Professor, Department of Electrical and Computer Engineering;* B.S.E.E., Calicut University; M.S.E., Asian Institute of Technology; Ph.D., University of Toledo

**Kanczewski, Steven (2023)**; *Lecturer, Turner School of Accountancy;* B.S., University of South Carolina; M.S.A., Wake Forest University

**Kangmennaang, Joseph (2019)**; *Assistant Professor, Department of Earth, Environmental, and Geographical Sciences;* B.A., University of Ghana; M.A., University of Western Ontario, Canada; Ph.D., University of Waterloo, Canada

**Karahan, Selcuk (2024)**; *Clinical Assistant Professor, Department of Finance;* B.B.A., Marmara University, Turkey; M.S., West Virginia University; Ph.D., University of Cincinnati

**Karp, Jason (2018)**; *Lecturer, Department of Computer Science;* B.A., Florida Atlantic University; M.S., Nova Southeastern University; Ed.D., Nova Southeastern University

**Kashtan, Aaron (2016)**; *Lecturer, Department of Writing, Rhetoric, and Digital Studies;* B.A., Brown University; M.A., Dartmouth College; Ph.D., University of Florida

**Katsanos, Fotini G. (2006)**; *Lecturer, Department of Religious Studies;* B.A., University of North Carolina at Greensboro; M.A., University of South Carolina at Columbia

**Katz, Peta (2013)**; *Lecturer, Department of Anthropology;* B.A., University of the Witwatersrand; M.A., The University of Chicago; M.Phil., Yale University; Ph.D., Yale University

**Kaye, Emma (2024)**; *Visiting Lecturer, Department of Art and Art History;* B.F.A., Pratt Institute; Post-Baccalaureate Studies, Syracuse University; Graduate Studies, Alfred University

**Kazemi, Mohammad A. (1982)**; *Professor, Department of Mathematics and Statistics;* B.S., Pahlavi University, Iran; M.S., Arya-Mehr University; Ph.D., University of Michigan

**Keanini, Russell G. (1992)**; *Professor, Department of Mechanical Engineering and Engineering Science;* B.S., Colorado School of Mines; M.S., University of Colorado at Boulder; Ph.D., University of California, Berkeley

**Kearney, Linwood W. (2016)**; *Clinical Assistant Professor, Turner School of Accountancy;* B.S.B.A., East Carolina University; M.B.A., East Carolina University; Ph.D., Florida State University

**Keen, Olya S. (2013)**; *Professor, Department of Civil and Environmental Engineering;* B.S., University of South Florida; M.S.E.E., University of South Florida

**Keles, Ozgur (2024)**; *Associate Professor, Department of Mechanical Engineering and Engineering Science;* B.S., Middle East Technical University; M.S., Middle East Technical University; Ph.D., Purdue University

**Kellermanns, Franz (2013)**; *Professor, Department of Management;* M.B.A., Indiana University of Pennsylvania; Ph.D., University of Connecticut

**Kelly, Scott David (2007)**; *Professor, Department of Mechanical Engineering and Engineering Science;* B.S., Cornell University; M.S., California Institute of Technology; Ph.D., California Institute of Technology

**Kenar, Anna K. (2018)**; *Lecturer, Department of Art and Art History;* B.A., Benedictine University; M.F.A., Northern Illinois University

**Kennerly, Susan M. (2012)**; *Professor, School of Nursing;* B.S.N., East Carolina University; M.Ed., University of North Carolina at Charlotte; M.N., University of South Carolina; Ph.D., University of Texas

**Kernicky, Timothy P. (2020)**; *Research Assistant Professor, Energy Production and Infrastructure Center (EPIC);* B.S., Gardner-Webb University; M.S.E, University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Kerr, David S. (2005)**; *Associate Professor, Turner School of Accountancy;* B.S., Utah State; Ph.D., Michigan State University

**Keynton, Robert S. (2020)**; *Dean, The William States Lee College of Engineering; Professor, Department of Mechanical Engineering and Engineering Science*; B.S., Virginia Polytechnic Institute and State University; M.S., University of Akron; Ph.D., University of Akron

**Khan, Saffeer M. (2022)**; *Associate Professor of Practice and Lab Manager, Energy Production and Infrastructure Center (EPIC);* B.E.., NED University of Engineering and Technology, Pakistan; M.S., National University of Sciences and Technology, Pakistan; Ph.D., University of North Carolina at Charlotte

**Khan, Taufiquar (2020)**; *Department Chair and Professor, Department of Mathematics and Statistics;* B.A., Occidental College; M.S., University of Southern California; M.A., University of Southern California; Ph.D., University of Southern California

**Kheifets, Igor (2023)**; *Visiting Assistant Professor, Department of Economics;* B.S., Moscow State University; M.A., New Economic School; M.S., Universidad Carlos III de Madrid; Ph.D., Universidad Carlos III de Madrid

**Khouja, Moutaz J. (1991)**; *Professor, Department of Business Information Systems and Operations Management;* B.S., University of Toledo; M.B.A., University of Toledo; Ph.D., Kent State University

**Kidder, Carly (2024)**; *SPED/SPEL University Professor, Office of School and Community Partnerships, Cato College of Education;* B.A., Miami University; M.A., Wingate University

**Killman, Jeffrey A. (2010)**; *Professor, Department of Languages, Cultures, and Translation;* B.A.Ed., University of New Mexico; M.S., University of Malaga, Spain; Ph.D., University of Malaga, Spain

**Kilmer, Ryan P. (1999)**; *Department Chair and Professor, Department of Psychological Science;* B.S., University of Washington; M.A., University of Rochester; Ph.D., University of Rochester

**Kim, Joohyun (44788)**; *Assistant Professor, Department of Business Information Systems and Operations Management;* B.S., Sogang University; M.S., Korea Advanced Institute of Science and Technology; Ph.D., University of Texas at Dallas

**Kim, Kyoung-Hee (2010)**; *Professor, David R. Ravin School of Architecture;* B.S.E., Chon-Buk National University; M.S.E., Chon-Buk National University; M.Arch., University of Michigan at Ann Arbor; Ph.D., University of Michigan at Ann Arbor

**Kim, Stella Y. (2018)**; *Associate Professor, Department of Educational Leadership;* B.S., Yonsei University, South Korea; B.A., Yonsei University, South Korea; M.A., Yonsei University, South Korea; Ph.D., University of Iowa

**Kim, Yongtaek (2011)**; *Lecturer, Department of Languages, Cultures, and Translation;* B.A., Yonsi University; M.A., Sophia University; Ph.D., University of Oregon

**King, Anyea L. (44788)**; *Lecturer, Department of Applied Physiology, Health, and Clinical Sciences;* B.S., University of North Carolina at Charlotte; M.S., University of North Carolina at Charlotte

**King, Tao-Hsien (Dolly) (2006)**; *Professor, Department of Finance;* B.B.A., National Cheng-Kung University, Taiwan; M.B.A., University of Wisconsin-Madison; Ph.D., University of Wisconsin-Madison

**Kirby, Christopher (2011)**; *Professor, Department of Finance;* B.S., Clemson University; M.B.A., Duke University; Ph.D., Duke University

**Kitten, Alicia (44788)**; *Assistant Professor, Department of Reading and Elementary Education;* A.S., Cuesta College; B.A., California State University; Ph.D., University of Texas at Austin

**Klein, Lidia (2018)**; *Associate Professor, David R. Ravin School of Architecture;* M.A., University of Warsaw, Poland; Ph.D., University of Warsaw, Poland

**Klibanov, Michael V. (1990)**; *Professor, Department of Mathematics and Statistics;* M.S., Novosibirsk State University, Russia; Ph.D., Ural State University, Russia; D.S., Novosibirsk State University, Russia

**Kluttz, Ann (1999)**; *Lecturer, Department of Art and Art History;* B.F.A., East Carolina University; M.F.A., East Carolina University

**Knight, Amber R. (2017)**; *Associate Professor, Department of Political Science and Public Administration;* B.A., University of California, Santa Cruz; M.A., University of North Carolina at Chapel Hill; Ph.D., University of North Carolina at Chapel Hill

**Knight, Barbara A. (44788)**; *Lecturer, Department of Management;* B.S.B.A., Seton Hall University; E.M.B.A., Claremont Graduate University; D.B.A., University of North Carolina at Chapel Hill

**Kolano, Lan Quach (2004)**; *Department Chair and Professor, Department of Middle, Secondary, and K-12 Education;* B.S., Virginia Polytechnic Institute and State University; M.A., Virginia Polytechnic Institute and State University; Ph.D., University of North Carolina at Chapel Hill

**Kopczynski, Hunter (44788)**; *Assistant Professor, Department of Music;* B.A., Virginia Polytechnic Institute and State University; M.A., Virginia Polytechnic Institute and State University; M.A., Michigan State University; D.M.A., Michigan State University

**Kossack, Christoph A. (44788)**; *Lecturer, Department of Mechanical Engineering and Engineering Science;* B.A., North Carolina State University; B.S., University of North Carolina at Charlotte; M.S.M.E., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Kou, Yu (45881)**; *Assistant Professor, Department of Marketing;* Ph.D., Temple University; M.S., Peking University, China; B.Eng., Jilin University, China

**Krasniqi, Rrezarta (2024)**; *Assistant Professor, Department of Software and Information Systems;* B.S., University of Prishtina; M.S., Midwestern State University; M.S., University of Notre Dame; Ph.D., University of North Texas

**Krishnan, Siddharth (2017)**; *Assistant Professor, Department of Computer Science;* B.S., Sri Sathya Sai Institute of Higher Learning; M.S., Sri Sathya Sai Institute of Higher Learning; M.S., Florida State University; Ph.D., Virginia Tech

**Kristoff, Emily (2012)**; *Lecturer, Department of Languages, Cultures, and Translation;* B.A., University of Georgia; M.A., University of North Carolina at Charlotte

**Kronberg, Anne-Kathrin (2018)**; *Associate Professor, Department of Sociology;* M.A., Emory University; Ph.D., Emory University

**Kropf, Martha E. (2006)**; *Professor, Department of Political Science and Public Administration;* B.A., Kansas State University; Ph.D., American University

**Kruckeberg, Dean (2008)**; *Professor, Center for Global and Public Relations Department of Communication Studies*; B.A., Wartburg College; M.A., Northern Illinois University; Ph.D., University of Iowa

**Krueger, Joanna K. (1999)**; *Associate Professor, Department of Chemistry;* B.A., Kalamazoo College; M.A., Princeton University; Ph.D., Princeton University

**Kudlats, Jamie (2019)**; *Associate Professor, Department of Educational Leadership;* B.S., Kennesaw State University; M.A.Ed., George Washington University; Ph.D., University of North Carolina at Chapel Hill

**Kuemmerle, Christian E. (44788)**; *Assistant Professor, Department of Computer Science;* B.S., Technical University of Munich; M.S., Technical University of Munich; Ph.D., Technical University of Munich

**Kuhns III, Joseph B. (2003)**; *Professor, Department of Criminal Justice and Criminology;* B.A., University of South Florida; M.A., University of South Florida; Ph.D., University of Albany

**Kulkarni, Shanti J. (2006)**; *Associate Dean for Research and Graduate Studies, School of Social Work; Professor;* B.A., Rice University; M.S.W., University of Texas at Austin; Ph.D., University of Texas at Austin

**Kuntzman, Staci (2001)**; *Senior Lecturer, Department of Communication Studies;* B.A., Marshall University; M.A., Marshall University

**Kurnaz, Musab M. (2018)**; *Associate Professor, Department of Economics;* B.S., Bilkent University, Turkey; M.A., Sabanci University, Turkey; Ph.D., Carnegie Mellon University

**LaBella, Abigail L. (44788)**; *Research Associate Professor, Department of Bioinformatics and Genomics;* B.S., American University; Ph.D., Duke University

**Lachance, Joan R. (2013)**; *Associate Professor, Department of Middle, Secondary, and K-12 Education;* B.S., Florida International University; M.Ed., Pontifical Catholic University of Puerto Rico; Ph.D., University of North Carolina at Charlotte

**Lai, Gene C. (2017)**; *Professor, Department of Finance;* B.A., National Chengchi University, Taiwan; M.S., Georgia State University; Ph.D., University of Texas at Austin

**Lai, Luca (2022)**; *Assistant Professor, Department of Anthropology;* B.A., University of Cagliari, Italy; M.A., University of Cagliari, Italy; Ph.D., University of South Florida

**Lail, Derrick (2014)**; *Lecturer, Department of Criminal Justice and Criminology;* B.A., Appalachian State University; B.S., Appalachian State University; M.S., Appalachian State University

**Lake, Savannah J. (2021)**; *Library/Associate Professor and Digital Scholarship Coordinator Librarian, J. Murrey Atkins Library;* B.A., University of California, Berkeley; M.L.I.S., University of California, Los Angeles

**LaMarca, Mary (2014)**; *Visiting Lecturer, Department of Languages, Cultures, and Translation;* B.A., Indiana University Bloomington; M.A., New York University; Ph.D., Duke University

**Lamb, Angela D. (44788)**; *Clinical Assistant Professor, School of Nursing;* B.S., Wright State University; M.S., Simmons University; D.N.P., Simmons University

**Lambert, Richard G. (1996)**; *Professor, Department of Educational Leadership;* B.S., St. Lawrence University Ed.; Ed.M., Temple University; Ed.S., Georgia State University; Ph.D., Georgia State University

**Lampkowski, Christin (2021)**; *Library/Associate Professor, J. Murrey Atkins Library;* B.A., Arizona State University; M.L.I.S., University of North Carolina at Greensboro

**Lanclos, Donna (2009)**; *Associate Professor of Anthropological Research, J. Murrey Atkins Library;* B.A., University of California, Santa Barbara; M.A., University of California, Berkley; Ph.D., University of California, Berkley

**Landerreche Cardillo, Paula (2024)**; *Assistant Professor, Department of Philosophy;* B.A., Universidad Iberoamericana, Mexico; Graduate Certificate, The New School for Social Research; M.A., The New School for Social Research; Ph.D., DePaul University

**Lane, Sandi (2024)**; *Associate Professor, Department of Health Management and Policy;* B.S., Southern Illinois University; M.S., University of New Haven; Ph.D., University of North Carolina at Charlotte

**Langford, David R. (1994)**; *Interim Department Chair and Associate Professor, School of Nursing;* A.S., Brigham Young University; B.S., Brigham Young University; M.S., University of California, San Francisco; D.N.Sc., University of California, San Francisco

**Langford, Dee A. (2007)**; *Lecturer, School of Nursing;* B.S.N., Old Dominion University; M.S.N., University of North Carolina at Charlotte

**Langhinrichsen-Rohling, Jennifer (2019)**; *Professor, Department of Psychological Science;* Sc.B., Brown University; M.S., University of Oregon; Ph.D., University of Oregon

**Langley, William (2015)**; *Research Associate Professor, Department of Civil and Environmental Engineering;* B.S., University of North Carolina at Charlotte; MEngr, University of South Carolina; Ph.D., North Carolina State University

**Lansen, Oscar E. (1994)**; *Senior Lecturer, Department of History;* B.A., NLO Het Mollerinstituut, The Netherlands; B.Ed., NLO Het Mollerinstituut, The Netherlands; M.A., Radboud University Nijmegen, Netherlands; M.Ed., Radboud University Nijmegen, Netherlands; Ph.D., Radboud University Nijmegen, Netherlands

**Larkin, Melissa (2022)**; *Lecturer, School and Community Partnership, Cato College of Education;* B.A., University of South Carolina; M.Ed., University of Virginia

**Lassiter, Hatajai (45880)**; *Assistant Teaching Professor, Department of Biological Sciences;* Ph.D., Howard University; M.S., North Carolina Central University; B.S., North Carolina State University

**Lattimore, Lisa (2023)**; *Lecturer, Office of Student Development and Success, The William States Lee College of Engineering;* B.S., Syracuse University; M.S., Cornell University; M.B.A., College of William and Mary

**Lawson-Alonso, Aura (2014)**; *Visiting Lecturer, Department of Languages, Cultures, and Translation;* B.A., University of North Carolina at Charlotte; M.A., University of North Carolina at Charlotte

**Lawton, Kevin (2000)**; *Senior Lecturer, Department of Mechanical Engineering and Engineering Science;* B.S., University of North Carolina at Charlotte; M.S., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Le, Chau (2024)**; *Assistant Professor, Department of Engineering Technology and Construction Management;* B.S., Ho Chi Minh City University of Technology, Vietnam; M.S., Ho Chi Minh City University of Technology, Vietnam; Ph.D., Texas A&M University

**Le, Hieu (45898)**; *Assistant Professor, Department of Computer Science;* Ph.D., Stony Brook University

**Leak, Jeffrey B. (1998)**; *Interim Associate Dean, Department of English; Professor;* B.A., Campbell University; M.A., University of Delaware; Ph.D. Emory University

**Lee, Charles Y. (1999)**; *Associate Professor, Department of Mechanical Engineering and Engineering Science;* B.S., University of California, Berkeley; M.S., University of California, Berkeley; Ph.D., University of California, Berkeley

**Lee, Eun-Kyoung (Othelia) (2010)**; *Professor, School of Social Work;* B.A., Catholic University of Korea, South Korea; M.S.W., Smith College; M.P.H.L., Columbia University; Ph.D., Columbia University

**Lee, Giseung (2011)**; *Lecturer, Department of Languages, Cultures, and Translation;* B.A., University of Ulsan, South Korea; M.A., Portland State University

**Lee, Ming-Chun (2013)**; *Associate Professor, David R. Ravin School of Architecture;* B.S., National Cheng Kung University, China; M.S., National Cheng Kung University, China; M.Arch., University of Washington; Ph.D., University of Washington

**Lee, Minwoo (2017)**; *Associate Professor, Department of Computer Science;* B.S., Korea Aerospace University; M.S., Korea Aerospace University; Ph.D., Colorado State University

**Leilabady, Pedram (2005)**; *Lecturer, Ishwar Aggarwal Department of Physics and Optical Science;* B.S., University of Kent; Ph.D., University of Kent

**Leland, Suzanne (2001)**; *Professor, Department of Political Science and Public Administration;* B.S., Minnesota State University; M.S., Minnesota State University; Ph.D., University of Kansas

**Lessani, Bamdad (2020)**; *Teaching Associate Professor, Department of Mechanical Engineering and Engineering Science;* B.S., Vrije Universiteit Brussel, Belgium; Ph.D., Vrije Universiteit Brussel, Belgium

**Lesser, Christopher (2024)**; *Assistant Professor, Department of Global Studies;* B.A., Princeton University; M.S., Mercy College; M.A., University of California; M.F., University of California; Ph.D., Universidade Federal Fluminense, Brazil

**Levens, Sara (2012)**; *Associate Professor, Department of Psychological Science;* B.A., University of California, Berkeley; Ph.D., New York University

**Leventis, Andrew (2016)**; *Associate Professor, Department of Art and Art History;* B.F.A., American Academy of Art; M.F.A., University of London, England

**Lewis, Chance W. (2011)**; *Carol Grotnes Belk Distinguished Professor in Urban Studies, Department of Middle, Secondary, and K-12 Education;* B.S., Southern University and A&M College; M.Ed., Southern University and A&M College; Ph.D., Colorado State University

**Lewis, Janaka B. (2009)**; *Associate Dean for Curriculum and Student Success, Department of English;* B.A., Duke University; M.A., Northwestern University; Ph.D., Northwestern University

**Li, Anni (45880)**; *Assistant Professor, Department of Electrical and Computer Engineering;* Ph.D., Boston University; M.Sc., Tongji University, Shanghai, China; B.S., Central China Normal University

**Li, Lin (2024)**; *Assistant Professor, Department of Earth, Environmental, and Geographical Sciences;* B.S., China University of Geosciences, Beijing; M.S., Institute of Geology and Geophysics, Chinese Academy of Science, Beijing; Ph.D., University of Rochester

**Li, Shaoyu (2014)**; *Professor, Department of Mathematics and Statistics;* B.A., Huazhong University of Science and Technology, China; M.A., Huazhong University of Science and Technology, China; Ph.D., Michigan State University

**Li, Wenyin (2023)**; *Assistant Professor, Turner School of Accountancy;* B.S., University of Kentucky; B.B.A., University of Kentucky; M.S., University of Kentucky; Ph.D., University of Kentucky

**Li, Xingjie (2015)**; *Professor, Department of Mathematics and Statistics;* B.S., Fudan University, China; M.S., University of Minnesota; Ph.D., University of Minnesota

**Li, Xuyang (45880)**; *Assistant Professor, Department of Engineering Technology and Construction Management;* Ph.D., Michigan State University; M.S., Michigan State University; B.S., Wuhan University of Technology

**Li, Yang (2013)**; *Associate Professor, Department of Mathematics and Statistics;* B.S.E., Beijing Institute of Technology, China; M.S., University of Arkansas at Little Rock; Ph.D., University of Missouri-Columbia

**Li, Yao (2024)**; *Assistant Professor, Department of Earth, Environmental, and Geographical Sciences;* B.E., Wuhan University; M.S., University of Chinese Academy of Science; Ph.D., University of Maryland

**Libby, Allan (2023)**; *Associate Professor (Library)/Head of Research Services, J. Murrey Atkins Library Public Services;* B.A., University of North Carolina at Wilmington; M.L.S., University of North Carolina at Chapel Hill

**Liguori, Pietro (46024)**; *Assistant Professor, Department of Software and Information Systems;* Dottore di Ricerca, University of Naples, Frederico II

**Lim, Churlzu (2006)**; *Associate Professor, Department of Industrial and Systems Engineering;* B.S., Korea Advanced Institute of Science and Technology, South Korea; M.S., Korea Advanced Institute of Science and Technology, South Korea; Ph.D., Virginia Polytechnic Institute and State University

**Lim, Jae Hoon (2006)**; *Professor, Department of Educational Leadership;* B.Ed., Seoul National University of Education, South Korea; M.A., Korea University, South Korea; Ph.D., University of Georgia

**Lindsay, Kevin J. (2014)**; *Lecturer and Freshman Advisor, Office of Student Development and Success, The William States Lee College of Engineering;* B.S., Embry-Riddle Aeronautical University; M.S., Clemson University; M.B.A., Loyola University

**Lindsey, Jessica M. (2014)**; *Professor, Department of Music;* B.A., University of Nebraska; M.M., University of Nebraska; D.M.A., University of Colorado at Boulder

**Linens, Shelley N. (2019)**; *Clinical Assistant Professor, Department of Applied Physiology, Health, and Clinical Sciences;* B.A., University of North Carolina at Chapel Hill; M.Ed., University of Virginia; Ph.D., Virginia Commonwealth University

**Linker, Jeanne-Marie (2016)**; *Visiting Lecturer, Department of Mathematics and Statistics;* B.S., University of North Carolina at Charlotte; B.A., University of North Carolina at Charlotte; M.S., Texas State University

**Lipford, Heather R. (2005)**; *Professor, Department of Software and Information Systems;* B.S., University of North Carolina at Charlotte; Ph.D., Georgia Institute of Technology

**Listwan, Shelley J. (2010)**; *Professor, Department of Criminal Justice and Criminology;* B.A., Wright State University; M.S., University of Cincinnati; Ph.D., University of Cincinnati

**Liu, Rong (2016)**; *Assistant Professor, Department of Mathematics and Statistics;* B.S., Shandong University, China; Ph.D., Michigan State University

**Liu, Xia (2019)**; *Professor, Department of Marketing;* B.A., Beijing Normal University, China; M.A., Beijing Normal University, China; M.S., Syracuse University; Ph.D., Syracuse University

**Lo, Eugenia (2017)**; *Associate Professor, Department of Biological Sciences;* B.S., University of Hong Kong; M.Phil., University of Hong Kong; Ph.D., University of Toronto

**Lo, Ya-yu (2004)**; *Professor, Department of Special Education and Child Development;* B.A., Soochow University; M.A., Ohio State University; Ph.D., Ohio State University

**Lohrabi Pour, Fariborz (45854)**; *Assistant Professor, Department of Electrical and Computer Engineering;* Ph.D., Virginia Polytechnic University; M.S., Sharif University of Technology; B.S., University of Isfahan, Iran

**Long, Sheri Spaine (2013)**; *Professor, Department of Languages, Cultures, and Translation;* B.A., University of Iowa; M.A., University of Iowa; Ph.D., University of California, Los Angeles

**Looby, Kimberly A. (2018)**; *Library/Associate Professor and Instruction and Information Librarian, J. Murrey Atkins Library;* B.A., University of Illinois at Urbana-Champaign; M.A., Eastern Illinois University; M.L.I.S., University of Illinois at Urbana-Champaign

**Lopez, Davina (45880)**; *Distinguished Professor, Department of Religious Studies;* Ph.D., Union Theological Seminary; M.Phil., Union Theological Seminary; M.A., Union Theological Seminary; B.A., Emory University

**Loraine, Ann E. (2008)**; *Professor, Department of Bioinformatics and Genomics;* B.A., University of Texas at Austin; B.S., University of Texas at Austin; Ph.D., University of California, Berkeley

**Lorenz, Tierney K. (2016)**; *Assistant Professor, Department of Psychological Science;* B.S., Duke University; M.A., University of Texas at Austin; Ph.D., University of Texas at Austin

**Lu, Aidong (2005)**; *Professor, Department of Computer Science;* B.S., Tsinghua University, China; M.S., Tsinghua University, China; Ph.D., Purdue University

**Luce, Chrislyn Z. (2004)**; *Clinical Associate Professor, Department of Reading and Elementary Education;* B.A., Florida State University; M.S., Florida State University; Ph.D., University of Southern Mississippi

**Lukic, Vasilije P. (1984)**; *Professor, Department of Electrical and Computer Engineering;* B.S.E.E., University of Belgrade, Serbia; M.S.E.E., University of Belgrade, Serbia; Sc.D., University of Belgrade, Serbia

**Lumpkin, Royce (1998)**; *Professor, Department of Music;* B.M.Ed., North Texas State University; M.M.Ed., North Texas State University; D.M.A., University of Oklahoma

**Luo, Elaine (44929)**; *Assistant Professor, Department of Biological Sciences;* B.S., University of Toronto, Canada; Ph.D., University of Hawaii

**Luo, Weijun (2011)**; *Research Assistant Professor, Department of Bioinformatics and Genomics;* B.S., Nanjing University, China; M.S., Chinese Academy of Sciences, China; Ph.D., University of Michigan

**Luttecke, Kristen (2012)**; *Assistant Professor, Turner School of Accountancy;* B.S., California State University; Ph.D., University of Colorado at Boulder

**Lutz, Chandler (2024)**; *Associate Professor & Steven Ott Distinguished Scholar;* B.S., University of Redlands; M.A., University of California at Riverside; Ph.D., University of California at Riverside

**Lyerly, Jordan (2019)**; *Lecturer, Department of Psychological Science;* B.S., University of North Carolina at Charlotte; M.S.P.H., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Lynch, Susan H. (2006)**; *Associate Director for Undergraduate Programs and Administration, and Clinical Assistant Professor, School of Nursing;* B.S.N., University of North Carolina at Greensboro; M.S.N., University of New Mexico

**Ma, Lijia (45880)**; *Assistant Professor, Department of Business Information Systems and Operations;* Ph.D., University of Washington; M.S.B.A., University of Washington; B.Eng., Tsinghua University; B,Econ., Tsinghua University

**Ma, Lin (2022)**; *Assistant Professor, Department of Mechanical Engineering and Engineering Science;* B.S., Xiamen University, China; M.S., Dalhousie University, Canada; Ph.D., Dalhousie University, Canada

**Mabe, Alan R. (2019)**; *Visiting Teaching Professor, Department of Educational Leadership;* B.A., Guilford College; M.A., Syracuse University; Ph.D., Syracuse University

**MacKay, Margaret M. (2014)**; *Lecturer, School of Nursing;* B.S., Fairfield University; M.N., Emory University

**Madsen, Patrick (2016)**; *Associate Dean for Advising and Experiential Learning, Office of Undergraduate Education;* B.A., North Carolina State University; M.S., East Carolina University; Ed.D., Nova Southeastern University

**Magennis, Laura (2020)**; *Lecturer, School of Nursing;* B.S.N., University of North Carolina at Greensboro; M.S.N., University of North Carolina at Charlotte; D.N.P., University of North Carolina at Charlotte

**Magi, Brian I. (2011)**; *Associate Professor, Department of Earth, Environmental, and Geographical Sciences;* B.S., University of Arizona; Ph.D., University of Washington

**Magoun, Meredith (2024)**; *Assistant Professor, Department of Theatre;* B.A., Smith College; M.F.A., Carnegie Mellon University

**Maguire, Joanne (1996)**; *Professor, Department of Religious Studies;* B.A., Connecticut College; M.T.S., Harvard Divinity School; Ph.D., The University of Chicago

**Mahaffey, Cathy H. (2011)**; *Lecturer, Department of Writing, Rhetoric, and Digital Studies;* B.A., University of North Carolina at Charlotte; M.A., University of North Carolina at Charlotte

**Maher, Mary Lou (2012)**; *Professor, Department of Software and Information Systems;* B.S., Columbia University; M.S., Carnegie Mellon University; Ph.D., Carnegie Mellon University

**Maity, Dipankar (2020)**; *Associate Professor, Department of Electrical and Computer Engineering;* B.S.E, Jadavpur University, India; Ph.D., University of Maryland

**Makas, Emily G. (2007)**; *Associate Professor, David R. Ravin School of Architecture;* B.A., University of Tennessee; M.S., Columbia University; Ph.D., Cornell University

**Manack, Marc (2016)**; *Associate Professor, David R. Ravin School of Architecture;* B.S.Arch., Ohio State University; M.Arch., Ohio State University

**Mangiaracina, Rex (2014)**; *Teacher in Residence, Office of School and Community Partnerships, Cato College of Education;* B.A., Western Washington University; M.A.T., University of North Carolina at Charlotte

**Manjrekar, Madhav Devidas (2012)**; *Associate Professor, Department of Electrical and Computer Engineering;* B.E., Government Polytechnic Mumbai, India; M.S., Indian Institute of Science, India; M.S., Montana State University; Ph.D., University of Wisconsin-Milwaukee

**Manlove, Adam (44773)**; *Assistant Professor, Turner School of Accountancy;* B.B.A., Abilene Christian University; M.Acc., Wichita State University; Ph.D., Indiana University - Bloomington

**Mannah-Blankson, Theresa (2019)**; *Clinical Assistant Professor, Department of Economics;* B.A., University of Ghana; M.Phil., University of Ghana; M.A., University of Massachusetts Amherst; Ph.D., University of Massachusetts Amherst

**Margarint, Vlad (2023)**; *Assistant Professor, Department of Mathematics and Statistics;* B.S., University of Bucharest; M.S., ETH Zurich; Ph.D., University of Oxford

**Marino, Juliana (2014)**; *Lecturer, Department of Applied Physiology, Health, and Clinical Sciences;* B.S., University of Mary Washington; M.A., Adelphi University

**Markant, Douglas (2017)**; *Associate Professor, Department of Psychological Science;* B.A., Cornell University; M.A., New York University; Ph.D., New York University

**Marks, Jonathan M. (2000)**; *Professor, Department of Anthropology;* B.A., Johns Hopkins University; M.S., University of Arizona; M.A., University of Arizona; Ph.D., University of Arizona

**Markevych, Mila (45880)**; *Assistant Professor, Department of Economics;* Ph.D., University of British Columbia; M.A., University of Saskatchewan; B.A., National University of Kyiv-Mohyla Academy

**Marriott, Ian (1998)**; *Professor, Department of Biological Sciences;* B.Sc., University of Birmingham; M.S., Tulane University School of Medicine; Ph.D., Tulane University School of Medicine

**Marshall, Thomas S. (2005)**; *Lecturer, Department of Finance;* B.B.A., Wake Forest University; M.B.A., University of Pennsylvania

**Martin, Gregory W. (2015)**; *Associate Professor, Turner School of Accountancy;* B.S., United States Air Force Academy; M.B.A., University of Notre Dame; Ph.D., University of Colorado at Boulder

**Martins do Outeiro, Jose C. (44986)**; *Professor, Department of Mechanical Engineering and Engineering Science;* M.S., University of Coimbra; Ph.D., University of Coimbra

**Massino, Jill M. (2011)**; *Associate Professor, Department of History;* B.A., University of Wisconsin Madison; M.A., North Eastern University; Ph.D., Indiana University at Bloomington

**Mathews, Jay (2023)**; *Assistant Professor, Ishwar Aggarwal Department of Physics and Optical Science;* B.S., Colorado State University; M.S., Arizona State University; Ph.D., Arizona State University

**Matthews, Michael S. (2008)**; *Interim Department Chair and Professor, Department of Special Education and Child Development;* B.A., University of Tennessee at Chattanooga; M.A., University of Wisconsin-Madison; Ph.D., University of Georgia

**Mauer, David (2015)**; *Professor, Department of Finance;* B.B.A., University of Iowa; Ph.D., Purdue University

**Maxwell, Daniel G. (2022)**; *Faculty Site Coordinator, Office of School and Community Partnerships, Cato College of Education;* B.A., University of North Carolina at Charlotte; M.Ed., University of North Carolina at Charlotte; Ed.D., University of North Carolina at Charlotte

**Mayo, Christopher D. (2021)**; *Clinical Assistant Professor, Department of Applied Physiology, Health, and Clinical Sciences;* A.S., St. Petersburg College; A.A., St. Petersburg College; BA.S., St. Petersburg College; M.S., Northeastern University

**Mayock, Thomas (2016)**; *Associate Professor, Department of Economics;* B.S., University of Pennsylvania; Ph.D., Florida State University

**McAdams, Jeffrey M. (2014)**; *Assistant Professor and Engineering Librarian, J. Murrey Atkins Library;* B.G.S., University of Kansas; M.L.S., Emporia State University

**McCarter, Susan A. (2008)**; *Professor, School of Social Work;* B.A., Clemson University; M.S., Virginia Commonwealth University; M.S.W., Virginia Commonwealth University; Ph.D., Virginia Commonwealth University

**McClendon, Chakia (45880)**; *Assistant Teaching Professor, Department of Biological Sciences;* Ph.D., North Carolina Agricultural and Technical State University; M.S., North Carolina Agricultural and Technical State University; B.S., North Carolina Agricultural and Technical State University

**McCloud, Sean P. (2003)**; *Department Chair and Professor, Department of Religious Studies;* B.A., Indiana University; M.A., Miami University of Ohio; Ph.D., University of North Carolina at Chapel Hill

**McCord, Laneshia (2014)**; *Assistant Professor, School of Social Work;* B.S.W., University of Kentucky; M.S.W., University of Georgia; Ph.D., University of Louisville

**McCorkle, Laura S. (2017)**; *Associate Professor, Department of Special Education and Child Development;* B.S., Murray State University; M.S., Murray State University; Ph.D., University of Georgia

**McCormick, Elizabeth L. (2019)**; *Associate Professor, David R. Ravin School of Architecture;* B.Arch., Rhode Island School of Design; M.S., Massachusetts Institute of Technology

**McCoy, Katryna F. (2019)**; *Associate Professor, School of Nursing;* B.S., University of Georgia; B.S.N., Augusta University; M.N., University of Washington; Ph.D., University of Washington

**McCulloch, Allison W. (2017)**; *Professor, Department of Mathematics and Statistics;* B.S., Purdue University; M.A., Sam Houston State University; Ph.D., Rutgers University

**McCurdy, Regina (45880)**; *Assistant Professor of Science Education, Department of Middle Grades, Secondary & K-12;* Ph.D., University of Central Florida; Ed.S., Lockheed Martin/UCF Academy; M.A., Asbury Theological Seminary; B.S., Florida State University

**McGoff, Kevin A. (2015)**; *Professor, Department of Mathematics and Statistics;* B.S., University of North Carolina at Chapel Hill; Ph.D., University of Maryland, College Park

**McGonagle, Alyssa (2016)**; *Professor, Department of Psychological Science;* B.A., College of the Holy Cross; M.A., University of New Haven; M.A., University of Connecticut; Ph.D., University of Connecticut

**McGuffin, Katherine S. (2017)**; *Clinical Assistant Professor, School of Nursing;* B.A., University of North Carolina at Charlotte; B.S.N., University of North Carolina at Charlotte; M.S.N., University of North Carolina at Charlotte; D.N.P., University of North Carolina at Charlotte

**McGuffin, Timothy (2023)**; *Lecturer, School of Nursing;* A.A., York Technical College; B.S.N., University of South Carolina; M.S.N., University of South Carolina; D.N.P., University of North Carolina at Charlotte

**McGuffin, Timothy A. (2020)**; *Lecturer, School of Nursing;* B.S.N., University of South Carolina; M.S.N., University of South Carolina; D.N.P., University of North Carolina at Charlotte

**McKee, Jesse (2019)**; *Lecturer, Department of Criminal Justice and Criminology;* B.S., Northern Arizona University; M.A., Northern Arizona University; Ph.D., Old Dominion University

**McKee, Jesse R. (2019)**; *Lecturer, Department of Criminal Justice and Criminology;* B.S., Northern Arizona University; M.A., Northern Arizona University; Ph.D., Old Dominion University

**McKenzie, Eric (44929)**; *Assistant Teaching Professor, Department of Chemistry;* B.A., University of North Carolina at Chapel Hill; B.S., University of North Carolina at Chapel Hill; Ph.D., Indiana University - Bloomington

**McKenzie, Mary (2003)**; *Assistant Dean of Curricular, Competency & Experiential Learning and Lecturer, Department of Sociology;* B.A., North Carolina State University; M.S., North Carolina State University

**McMains, Joshua (2024)**; *Assistant Teaching Professor, Department of Psychological Science;* B.S., University of Georgia; M.S., Georgia Southern University; Ph.D., University of Georgia

**Meaden-Kaplansky, Heddda (2024)**; *Snyder Distinguished Professor, Department of Special Education and Child Development;* B.Sc., Hebrew University of Jerusalem, Israel; M.A., Hebrew University of Jerusalem, Israel; Ph.D., University of Illinois at Urbana-Champaign

**Medina, Adriana L. (2007)**; *Department Chair and Professor, Department of Reading and Elementary Education;* B.S., Vanderbilt University; M.S., Florida International University; Ph.D., University of Miami

**Mejias, Marlon (2018)**; *Teaching Assistant Professor, Department of Software and Information Systems;* B.S., Howard University; M.S., George Washington University; Ph.D., Howard University

**Mellinger, Christopher D. (2017)**; *Professor, Department of Languages, Cultures, and Translation;* B.A., Wake Forest University; M.A., Kent State University; Ph.D., Kent State University

**Melnikoff, Kirk (2002)**; *Department Chair and Professor, Department of English;* B.A., Lehigh University; M.A., Boston University; Ph.D., Boston University

**Meneses-Naranjo, Juan (2013)**; *Associate Professor, Department of English;* B.A., Universitat Autònoma de Barcelona, Spain; M.A., Universitat Autònoma de Barcelona, Spain; Ph.D., Purdue University

**Mennicke, Annelise M. (2015)**; *Professor, School of Social Work;* B.S., University of Florida; M.S.W., Florida State University; Ph.D., Florida State University

**Mensah, David (45880)**; *Visiting Assistant Professor, Department of Anthropology;* Ph.D., Northern Arizona University; M.A., Northern Arizona University; B.A., University of Cape Cod; Graduate Certificate, Northern Arizona University

**Merkert, Jon W. (2003)**; *Lecturer, Department of Chemistry;* B.S., Colorado State University; Ph.D., University of Vermont

**Merlin-Knoblich, Clare P. (2015)**; *Professor, Department of Counseling;* B.A., University of North Carolina at Chapel Hill; M.Ed., University of Georgia; Ph.D., College of William & Mary

**Merriweather, Lisa R. (2009)**; *Professor, Department of Educational Leadership;* B.A., California State University; M.A., Morehead State University; Ph.D., University of Georgia

**Metcalfe, Alyson (2014)**; *Lecturer, Department of Finance;* B.S., University of North Carolina at Chapel Hill; M.S., University of Georgia; M.S., University of North Carolina at Charlotte

**Metzgar, Matthew R. (2011)**; *Clinical Assistant Professor, Department of Economics;* B.S., West Virginia University; M.B.A., Wheeling Jesuit University; Ph.D., University of Tennessee

**Miatudila, Alain (2013)**; *Lecturer, Department of Engineering Technology and Construction Management;* A.A.S., Central Piedmont Community College; B.S., University of North Carolina at Charlotte; M.S., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Mickelson, Ann M. (2019)**; *Associate Professor, Department of Special Education and Child Development;* B.S., University of Wisconsin-Madison; M.S., University of Wisconsin-Madison; Ph.D., University of South Florida

**Mickelson, Roslyn A. (1985)**; *Professor, Department of Sociology Women's and Gender Studies*; B.A., University of California, Los Angeles; M.A., University of California, Los Angeles; Ph.D., University of California, Los Angeles

**Millard, Eric J. (2018)**; *Associate Professor, Department of Music;* B.M., University of Kentucky; M.M., Florida State University; D.M., Florida State University

**Miller, Elizabeth R. (2006)**; *Professor, Department of English;* B.A., Grace College; M.A., Purdue University; M.A., University of Wisconsin-Madison; Ph.D., University of Wisconsin-Madison

**Miller, Erin Till (2013)**; *Professor, Department of Reading and Elementary Education;* B.A., Emory University; M.A.T., University of South Carolina; Ph.D., University of South Carolina

**Miller, Joshua P. (2018)**; *Lecturer, Department of Political Science and Public Administration;* B.A., Stetson University; M.A., University of North Carolina at Chapel Hill; Ph.D., University of North Carolina at Chapel Hill

**Miller, Kelli (2015)**; *Clinical Assistant Professor, School of Nursing;* B.S.N., Medical College of Georgia; M.S.N., Georgia Southern University; D.N.P., Georgia Southern University

**Miller, Ryan (2016)**; *Associate Professor, Department of Educational Leadership;* B.J., University of Texas at Austin; M.Ed., Harvard University; Ph.D.; Ph.D., University of Texas at Austin

**Mingo, Taryne M. (2018)**; *Associate Professor, Department of Counseling;* B.A., University of Georgia; M.Ed., University of Georgia; Ed.S., University of Georgia; Ph.D., University of Georgia

**Miri, S. Mehdi (1987)**; *Associate Professor, Department of Electrical and Computer Engineering;* B.S., Western Michigan University; M.S., Ph.D.; Ph.D., Ohio State University

**Misher, April M. (44927)**; *School of Nursing Lecturer, School of Nursing;* B,A., Coastal Carolina University; A.S.N., Northwestern State University; B.S.N., Francis Marion University; M.S.N., University of South Carolina; D.N.P., East Carolina University

**Miss, Angela M. (2016)**; *Lecturer, Department of Writing, Rhetoric, and Digital Studies;* B.A., University of Georgia; M.A., University of Georgia; Ph.D., University of Georgia

**Missihoun, Honore J. (2018)**; *Lecturer, Department of Africana Studies;* M.A./M.Ed., Pontifical University of Salmanca, Spain; M.A., Kent State University; Ph.D., University of North Carolina at Chapel Hill

**Mitchell, Jason (2023)**; *Visiting Lecturer, Department of Music;* B.F.A., Marshall University; M.A., Rutgers University; Ph.D., Florida State University

**Mo, Xi (2023)**; *Clinical Assistant Professor, Department of Finance;* B.A., Beijing Language and Culture University; M.S., State University of New York at Buffalo; Ph.D., University of North Carolina at Charlotte

**Moffitt-Yost, Jacqueline V. (2008)**; *Lecturer, Department of Music;* B.M., University of Rochester; M.A., University of Rochester; M.M., Cleveland Institute of Music; D.M.A., University of Rochester

**Moglen, Glenn (2023)**; *Department Chair and Professor, Department of Civil and Environmental Engineering;* B.S., University of Maryland at College Park; M.S., Colorado State University; Ph.D., Massachusetts Institute of Technology

**Mohiuddin-Jacobs, Farida (2015)**; *Lecturer, Ishwar Aggarwal Department of Physics and Optical Science;* B.S., University of Dhaka, Bangladesh; M.S., University of Dhaka, Bangladesh; M.S., Purdue University; Ph.D., Purdue University

**Molavi-Zarandi, Marjan (2023)**; *Research Associate Professor, Department of Mechanical Engineering and Engineering Science;* B.S., Bahonar University of Kerman; M.S., Concordia University; Ph.D., McGill University

**Molchanov, Stanislav A. (1994)**; *Professor, Department of Mathematics and Statistics;* D.Sc., Moscow State University, Russia

**Moll III, Richard C. (2009)**; *Lecturer, Department of Theatre;* B.A., University of North Carolina at Charlotte; B.C.A., University of North Carolina at Charlotte

**Moller, Stephanie (2009)**; *Professor, Department of Sociology;* B.S., Guilford College; M.A., University of Delaware; M.A., University of Georgia; Ph.D., University of North Carolina at Chapel Hill

**Monge, Adriana O. (2014)**; *Associate Professor, Department of Mathematics and Statistics;* B.S., Universidad de Sonora, Mexico; M.S., Universidad de Sonora, Mexico; Ph.D., University of Warwick, England

**Monque Lopez, Pedro (2024)**; *Assistant Professor, Department of Philosophy;* B.A., St. Olaf College; M.Phil., City University of New York; Ph.D., City University of New York

**Montanaro, Erika A. (2016)**; *Associate Professor, Department of Psychological Science;* B.S., Arizona State University; M.S., University of New Mexico; Ph.D., University of Colorado at Boulder

**Montegrico, Jhordin James C. (2017)**; *Lecturer, School of Nursing;* B.S.N., University of Santo Tomas, Phillippines; M.S.N., Saint Paul University Phillippines

**Montoro-Rodriguez, Julian (2014)**; *Professor, School of Social Work;* B.A., Complutense University of Madrid, Spain; M.A., Case Western Reserve University; Ph.D., Case Western Reserve University

**Moon, Sangkil (2013)**; *Department Chair and Professor, Department of Marketing;* B.B.A., Seoul National University, South Korea; M.B.A., Seoul National University, South Korea; Ph.D., University of Iowa

**Moore, Abigail (2014)**; *Library Faculty President, J. Murrey Atkins Library;* B.A., Lehigh University; M.A., City College of New York; M.L.S., Queens University of Charlotte

**Moore, Stephen (2023)**; *Lecturer, Department of Management;* A.A.S., Mater Dei College; A.S., State University of New York at Canton; B.S., State University of New York Institute of Technology; M.B.A., Syracuse University; M.S., Syracuse University

**Moore-Harrison, Trudy (2010)**; *Lecturer, Department of Applied Physiology, Health, and Clinical Sciences;* B.S., Howard University; M.S., Howard University; Ph.D., University of Georgia

**Mori, Chikako (2006)**; *Lecturer, Department of Languages, Cultures, and Translation;* B.A., Chubu University; M.Ed., Ohio University

**Morin, Tiffany A. (2018)**; *Lecturer, Department of English;* B.A., Fayetteville State University; M.A., University of North Carolina at Charlotte

**Morong, Jay (2008)**; *Lecturer, Department of Theatre;* B.A., Assumption College; M.A., Boston University

**Morris, Debra (2016)**; *Assistant Professor, Department of Educational Leadership;* B.A., Appalachian State University; M.A., University of North Carolina at Charlotte; Ed.D., University of North Carolina at Charlotte

**Morris, Dustin (45880)**; *Assistant Teaching Professor, Department of Writing, Rhetoric, and Digital Studies;* Ph.D., Oklahoma State University; M.A., University of Central Oklahoma; B.A., University of Science and Arts of Oklahoma

**Morrison, Danyeal (2022)**; *Lecturer, School and Community Partnership, Cato College of Education;* B.A., Alabama A&M University; M.A.T., Wayne State University

**Morse, Edward (1999)**; *Professor, Department of Mechanical Engineering and Engineering Science;* B.S., Swarthmore College; M.S., Cornell University; Ph.D., Cornell University

**Morton, Jessica R. (2022)**; *Visiting Lecturer, Department of Writing, Rhetoric, and Digital Studies;* B.A., Concord University; M.A., University of North Carolina at Charlotte

**Moyer, Thomas (2017)**; *Assistant Professor, Department of Software and Information Systems;* B.S., Pennsylvania State University; M.S., Pennsylvania State University; Ph.D., Pennsylvania State University

**Muesing, Mary Ellen (2003)**; *Lecturer, Department of Writing, Rhetoric, and Digital Studies;* B.A., Northeastern Illinois University; M.A., Northeastern Illinois University

**Mukherjee, Arindam (2002)**; *Associate Professor, Department of Electrical and Computer Engineering;* B.S., Jadavpur University, India; M.S., University of California, Santa Barbara; Ph.D., University of California, Santa Barbara

**Mukherjee, Pinku (2008)**; *Dean for Research and Graduate Education, Distinguished Professor, College of Humanities & Earth and Social Sciences; Professor, Department of Biological Sciences*; B.S., University of Bombay, India; M.S., University of London, England; Ph.D., University of London, England

**Mullany, Brigid A. (2004)**; *Associate Dean for Research, The William States Lee College of Engineering; Professor, Department of Mechanical Engineering and Engineering Science*; B.S., University College Dublin, Ireland; Ph.D., University College Dublin, Ireland

**Mumford, Sherman (2016)**; *Lecturer, Office of Student Development and Success, The William States Lee College of Engineering;* B.S.E.T., University of North Carolina at Charlotte; M.S., Eastern Michigan University

**Munir, Mariya (2016)**; *Assistant Professor, Department of Civil and Environmental Engineering;* M.S., Michigan State University; Ph.D., Michigan State University

**Murphy, David L. (2001)**; *Associate Professor, Department of Engineering Technology and Construction Management;* B.S., Eastern Kentucky University; M.S., Eastern Kentucky University

**Murphy, Deana K. (2004)**; *Lecturer, Department of Special Education and Child Development;* A.B., University of North Carolina at Chapel Hill; M.Ed., University of North Carolina at Charlotte

**Murphy, Jeffrey (1998)**; *Associate Professor, Department of Art and Art History;* B.F.A., Ohio State University; M.F.A., University of Florida

**Murray, Elizabeth M. (2010)**; *Associate Professor, Department of Theatre;* B.A., Pennsylvania State University; M.A., Emerson College; Ph.D., The Ohio State University

**Murrell, Alexis (2023)**; *Assistant Professor (Library)/Instruction and Information Literacy Librarian, J. Murrey Atkins Library;* B.A., Purdue University; M.L.S., Indiana University

**Murtha, Timothy (2023)**; *Professor, Department of Anthropology;* B.A., University of Central Florida; M.A., Pennsylvania State University; Ph.D., Pennsylvania State University

**Mushunje, Rumbidzai (45880)**; *Assistant Professor, Department of Counseling;* Ph.D., Ohio State University; M.A., University of Cincinnati; B.S., Ohio State University

**Mwangi, Esther W. (2016)**; *Visiting Lecturer, Department of Sociology;* B.S., Egerton University, Kenya; M.B.A., University of Central Oklahoma; Ph.D., Ohio State University

**Myers, Adam (2016)**; *Clinical Assistant Professor, Department of Middle, Secondary, and K-12 Education;* B.A., State University of New York at Fredonia; M.Ed., Winthrop University; Ed.D., Gardner-Webb University

**Myers, Adam (2016)**; *Clinical Assistant Professor, Department of Middle, Secondary, and K-12 Education;* B.A., State University of New York at Fredonia; M.Ed., Winthrop University; Ed.D., Gardner-Webb University

**Na, Hunhui (45880)**; *Assistant Professor of Learning, Design and Techno, Department of Educational Leadership;* Ph.D., Florida State University; M.Ed., Seoul National University of Education; B.Ed., Seoul National University of Education

**Najarian, Erin C. (44788)**; *Lecturer, School of Nursing;* B.A., University of North Carolina at Chapel Hill; B.S.N., University of North Carolina at Charlotte; M.S.N., Vanderbilt University; D.N.P., Vanderbilt University

**Najjar, Nadia (2016)**; *Lecturer, Department of Computer Science;* B.S., George Mason University; M.A., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Nance, John C. (2019)**; *Clinical Assistant Professor, Department of Counseling;* B.A., Warner University; M.A., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Nanny, Mallory (2023)**; *Lecturer, Department of Art and Art History;* B.A., University of North Carolina at Wilmington; M.A., Richmond, The American International University in London, England; M.A., Florida State University; Ph.D., Florida State University

**Nasipuri, Asis (2000)**; *Associate Dean for Faculty Affairs and Professor, Department of Electrical and Computer Engineering;* B.Tech., Indian Institute of Technology, India; M.S., University of Massachusetts; Ph.D., University of Massachusetts

**Naylor, David W. (2007)**; *Lecturer, Department of Civil and Environmental Engineering;* B.S.C.E., University of North Carolina at Charlotte; M.S.C.E., University of North Carolina at Charlotte

**Ndabu, Theophile N. (44788)**; *Lecturer, Department of Business Information Systems and Operations Management;* B.S., Rochester Institute of Technology; M.B.A., State University of New York - Polytechnic Institute; Ph.D., University at Buffalo

**Ndiaye, Demba (2014)**; *Assistant Professor, Department of Engineering Technology and Construction Management;* B.S., Ecole Polytechnique de Thiès, Senegal; M.S., École Polytechnique de Montréal, Canada; Ph.D., École Polytechnique de Montréal, Canada

**Neale, Faith R. (2004)**; *Associate Professor, Department of Finance;* B.S., University of Florida; M.S.A., Georgia Southwestern State University; Ph.D., Florida State University

**Neil, Delia L. (1987)**; *Associate Dean for Academic Affairs, Department of Dance; Associate Professor;* B.A., Butler University; M.F.A., University of North Carolina at Greensboro

**Nesbit, Jeffrey (2015)**; *Visiting Assistant Professor, David R. Ravin School of Architecture;* B.S., Texas Tech University; M.Arch., Texas Tech University; M.Arch., University of Pennsylvania

**Nesbit, Marissa B. (2019)**; *Assistant Professor, Department of Dance;* B.A., Pitzer College; M.F.A., Texas Woman's University; Ph.D., Ohio State University

**Nesmelov, Yuri (2009)**; *Professor, Ishwar Aggarwal Department of Physics and Optical Science;* B.S., Kazan State University, Russia; Ph.D., Kazan State University, Russia

**Nettles, John (2019)**; *Lecturer, Department of Engineering Technology and Construction Management;* B.S.M.E., University of North Carolina at Charlotte; M.S.M.E., University of North Carolina at Charlotte

**Newell, David L. (44788)**; *Visiting Assistant Professor, Department of Engineering Technology and Construction Management;* A.A.S., Central Piedmont Community College; B.S.E.T., University of North Carolina at Charlotte; M.S., University of North Carolina at Charlotte

**Newton, Jason (2022)**; *Lecturer, Department of History;* B.A., Syracuse University; Ph.D., Syracuse University

**Newton, Xiaoxia (2018)**; *Professor, Department of Educational Leadership;* B.A., Tsinghua University, China; M.A., Tsinghua University, China; Ph.D., University of California, Los Angeles

**Nguyen, Loc Hoang (2016)**; *Associate Professor, Department of Mathematics and Statistics;* B.S., Vietnam National University, Vietnam; M.A., University of Utah; Ph.D., University of Utah

**Nicholson, Joseph R. (2013)**; *Library Faculty President, Associate Professor, and Metadata Librarian, J. Murrey Atkins Library;* B.A., University of North Carolina at Chapel Hill; M.A., College of William & Mary; M.S.L.S., University of North Carolina at Chapel Hill

**Niu, Xi (Sunshine) (2015)**; *Associate Professor, Department of Software and Information Systems;* M.S., Tsinghua University, China; Ph.D., University of North Carolina at Chapel Hill

**Nix-Crawford, Brittney (2024)**; *Lecturer, Department of Communication Studies;* B.A., Temple University; M.S., Drexel University; Ph.D., University of Delaware; Ph.D., Clemson University

**Noble, Bonnie (1999)**; *Associate Professor, Department of Art and Art History;* B.A., Northwestern University; M.A., University of Pennsylvania; Ph.D., Northwestern University

**Norander, Per (2015)**; *Lecturer, Department of Economics;* B.S., North Park University; M.A., Ohio University

**Norander, Stephanie N. (2015)**; *Professor, Department of Communication Studies;* B.B.A., Ohio University; M.A., Ohio University; Ph.D., Ohio University

**Noras, Maciej A. (2007)**; *Associate Professor, Department of Engineering Technology and Construction Management;* M.Sc., Wroclaw University of Technology; Ph.D., Southern Illinois University

**O'Brien, Christopher P. (2006)**; *Associate Professor, Department of Special Education and Child Development;* B.A., University of Central Florida; M.A., University of Central Florida; Ph.D., University of Central Florida

**O'Hare, Heidi (2007)**; *Lecturer, Department of Theatre;* B.F.A., University of Wisconsin; M.F.A., University of California

**Ocana Gautherot, Kary (2025)**; *Research Assistant Professor, College of Computing and Informatics;* B.Sc., Federal University of Rio de Janeiro, Brazil; B.Sc., National University of San Marcos, Peru; M.Sc., Oswaldo Cruz Foundation; D.Sc., Oswaldo Cruz Foundation

**Ogburn, Dennis E. (2007)**; *Associate Professor, Department of Anthropology;* B.A., Rice University; M.A., University of California, Santa Barbara; Ph.D., University of California, Santa Barbara

**Ogunro, Vincent O. (2001)**; *Associate Professor, Department of Civil and Environmental Engineering;* B.S., University of Ife, Nigeria; M.S., University of Lagos, Nigeria; Ph.D., Institut National des Sciences Appliquees, France

**Oh, Jaewon (44788)**; *Assistant Professor, Department of Engineering Technology and Construction Management;* B.S., Konkuk University, Seoul, Korea; M.S., Arizona State University; Ph.D., Arizona State University

**Oh, Seojung (45880)**; *Assistant Professor, Department of Economics;* Ph.D., University of California; M.A., Seoul National University; B.A., Seoul National University

**Ojaide, Tanure (1990)**; *Frank Porter Graham Professor, Department of Africana Studies;* B.A., University of Ibadan, Nigeria; M.A., Syracuse University; Ph.D., Syracuse University

**Okoro, Florence (2015)**; *Associate Professor, School of Nursing;* B.S.N., Obafemi Awolowo University, Nigeria; M.S.N., Obafemi Awolowo University, Nigeria; Ph.D., University of North Carolina at Chapel Hill

**Okraski, Cornelia (2022)**; *Lecturer, Faculty Site Coordinator, Office of School and Community Partnerships, Cato College of Education;* B.A., University of Florida; M.A., Pennsylvania State University; M.B.A., Pennsylvania State University

**Olson, Gordon W. (2011)**; *Lecturer, Performing Arts Services, College of Arts + Architecture;* B.F.A., Arizona State University; M.F.A., University of Texas at Austin

**Opiola, Kristie (2016)**; *Assistant Professor, Department of Counseling;* B.S., University of Pittsburgh; M.S., Wheelock College; M.Ed., University of North Texas; Ph.D., University of North Texas

**Orman, Evelyn K. (2015)**; *Interim Associate Dean for Research, Department of Music;* B.M.E., Murray State University; M.Ed., University of Central Florida; Ed.D., University of Alabama

**Ornat, Natalie (2018)**; *Library Faculty President, Assistant Professor and Humanities Librarian, J. Murrey Atkins Library;* B.A., University of Wisconsin-Madison; M.L.S., University of North Carolina at Chapel Hill

**Orozco, Carlos (2001)**; *Associate Professor, Department of Engineering Technology and Construction Management;* B.S., Universidad Nacional de Colombia; M.S., Carnegie Mellon University; Ph.D., Carnegie Mellon University

**Outlaw, Taylor (2024)**; *Assistant Teaching Professor, Department of Chemistry;* B.S., Wake Forest University; Ph.D., Duke University

**Overton, Jonathan (44788)**; *Assistant Professor, Department of Sociology;* B.A., University of Iowa; M.A., Kent State University; Ph.D., Kent State University

**Oyarzun, Susan Elizabeth (Beth) Allred (2017)**; *Clinical Assistant Professor, Department of Educational Leadership;* B.A., University of North Carolina at Wilmington; M.S., University of North Carolina at Wilmington; Ph.D., Old Dominion University

**Ozelkan, Agnes (2014)**; *Senior Lecturer, Department of Industrial and Systems Engineering;* B.S., Eötvös Loránd University; M.S., University of Arizona; Ph.D., University of Arizona

**Ozelkan, Agnes G. (2019)**; *Lecturer, Department of Industrial and Systems Engineering;* B.S., Eötvös Loránd University, Hungary; M.S., University of Arizona; Ph.D., University of Arizona

**Ozelkan, Ertunga C. (2004)**; *Professor, Department of Industrial and Systems Engineering;* B.A., Bogaziçi University; M.S., University of Arizona; Ph.D., University of Arizona

**Paddock, Jonathan C. (2010)**; *Senior Lecturer, Department of Communication Studies;* B.S., Bob Jones University; M.M.C., University of South Carolina at Columbia

**Padilla-Falto, Olga (2016)**; *Visiting Lecturer, Department of Languages, Cultures, and Translation;* B.S., Georgetown University; M.S., Georgetown University; Ph.D., Georgetown University

**Pajares Dos Santos, Sarah (2024)**; *MA Fellow in Spanish, Department of Languages, Cultures, and Translation;* B.A., Complutense University of Madrid, Spain; M.A.T., University of Salamanca

**Palladino, Emily M. (2022)**; *Lecturer, School of Nursing;* B.S., Western Connecticut State University; M.S.N., Sacred Heart University; D.N.P., Sacred Heart University

**Pan, Fenglian (45880)**; *Assistant Professor, Department of Industrial and Systems Engin;* Ph.D., University of Arizona; M.S., University of Arizona; M.S., Beihang University; B.S., Nanjing University of Aeronautics and Astronautics

**Pan, Yinghao (2018)**; *Associate Professor, Department of Mathematics and Statistics;* B.S., Fudan University, China; M.S., Yale University; Ph.D., University of North Carolina at Chapel Hill

**Pando, Miguel A. (2010)**; *Associate Professor, Department of Civil and Environmental Engineering;* B.S., Javeriana University; M.S., University of Alberta; Ph.D., Virginia Polytechnic Institute and State University

**Paquette, Elisabeth (2017)**; *Associate Professor, Department of Philosophy;* M.A., University of Guleph, Canada; Ph.D., York University, Canada

**Parajuli, Jyotsana (2020)**; *Associate Professor, School of Nursing;* B.S.N., Tribhuvan University, Nepal; M.S., Miami University; Ph.D., Pennsylvania State University

**Park, Noseong (2016)**; *Assistant Professor, Department of Software and Information Systems;* B.E., Soongsil University, South Korea; M.S., Korea Advanced Institute of Science and Technology; Ph.D., University of Maryland, College Park

**Park, Sungjune (2001)**; *Professor, Department of Business Information Systems and Operations Management;* B.S., Korea Advanced Institute of Science and Technology, South Korea; M.S., Korea Advanced Institute of Science and Technology, South Korea; Ph.D., State University of New York at Buffalo

**Parker, Jennifer B. (2013)**; *Supervisor of Student Teaching/Teacher-in-Residence, Office of School and Community Partnerships, Cato College of Education;* B.A., University of North Carolina at Charlotte; M.A., Gardner-Webb University

**Parker-Sheffield, Miranda (2025)**; *Assistant Professor, Department of Software and Information Systems;* B.S., Harvey Mudd College; Ph.D., Georgia Institute of Technology

**Parkhideh, Babak (2012)**; *Associate Professor, Department of Electrical and Computer Engineering;* B.S., University of Tehran, Iran; M.S., RWTH Aachen University, Germany; Ph.D., North Carolina State University

**Parrow, Matthew W. (2006)**; *Associate Dean for Academic Administration, Department of Biological Sciences;* B.S., University of North Carolina at Chapel Hill; Ph.D., North Carolina State University

**Pass, Michelle (2009)**; *Lecturer, Department of Biological Sciences;* B.S., North Carolina State University; M.S., North Carolina A&T State University

**Patel, Vijay (2017)**; *Clinical Assistant Professor, Department of Management;* B.S.E., University of Canterbury, New Zealand; B.S., University of Canterbury, New Zealand; M.B.A., University of Western Ontario (Western University); D.B.A., Kennesaw State University

**Patterson, Olivia (2021)**; *Library/Associate Professor, J. Murrey Atkins Library;* B.A., University of North Carolina at Asheville; M.L.I.S., University of North Carolina at Greensboro

**Paul, Rajib (2017)**; *Professor, Department of Epidemiology and Community Health;* B.S., Ramakrishna Mission Residential College, Narendrapur, India; M.S., Indian Institute of Technology, India; Ph.D., Ohio State University

**Payton, Jamie J. (2006)**; *Associate Professor, Department of Computer Science;* B.S., University of Tulsa; M.S., Washington University; D.Sc., Washington University

**Pearce, Sandy C. (2019)**; *Lecturer, School of Nursing;* B.S.N., University of North Carolina at Charlotte; M.S.N, University of North Carolina at Charlotte

**Pearce, Trevor R. (2013)**; *Department Chair and Professor, Department of Philosophy;* B.S., University of British Columbia; B.A., University of British Columbia; M.A., The University of Chicago; M.S., The University of Chicago; Ph.D., The University of Chicago

**Pereira, Malin (1992)**; *Dean, Honors College; Professor, Department of English*; B.A., University of Wisconsin-Madison; M.A., University of Wisconsin-Madison; Ph.D., University of Wisconsin-Madison

**Pérez-Quiñones, Manuel A. (2015)**; *Professor, Department of Software and Information Systems;* B.A., Ball State University; M.S., Ball State University; D.S., George Washington University

**Perry, Heather R. (2005)**; *Associate Professor, Department of History;* B.A., Vanderbilt University; M.A., Indiana University; Ph.D., Indiana University

**Peterman, Amy H. (2005)**; *Associate Professor, Department of Psychological Science;* B.S., Carnegie Mellon University; M.S., University of Pittsburgh; Ph.D., University of Pittsburgh

**Peters, Amy J. (2009)**; *Lecturer, School of Social Work;* B.S.W., Marist College; M.S.W., Fordham University

**Petersen, Kevin (2024)**; *Assistant Professor, Department of Criminal Justice and Criminology;* B.S., Virginia Tech University; M.S., Radford University; Ph.D., George Mason University

**Peterson, Nicole D. (2010)**; *Department Chair and Professor, Department of Anthropology;* B.A., Rice University; M.A., University of California, San Diego; Ph.D., University of California, San Diego

**Petty, Teresa M. (2005)**; *Associate Provost Undergraduate Education and Dean of University College, Cato College of Education; Professor, Department of Middle, Secondary, and K-12 Education*; B.S., University of North Carolina at Greensboro; M.Ed., University of North Carolina at Greensboro; Ed.D., University of North Carolina at Chapel Hill

**Phillips, Matthew D. (2013)**; *Associate Professor, Department of Criminal Justice and Criminology;* B.A., Winthrop University; M.A., University of North Carolina at Charlotte; Ph.D., State University of New York at Albany

**Piatak, Jaclyn S. (2013)**; *Professor, Department of Political Science and Public Administration;* B.A., Providence College; M.A., Johns Hopkins University; Ph.D., American University

**Pieper, Torsten M. (2018)**; *Professor, Department of Management;* B.S., Rollins College; M.M., EMLYON Business School, France; M.S., Saarland University, Germany; Ph.D., European Business School International University

**Pilkington, Stephanie F. (2019)**; *Assistant Professor, Department of Engineering Technology and Construction Management;* B.S.C.E., Virginia Polytechnic Institute and State University; M.S., Colorado State University; Ph.D., Colorado State University

**Pilonieta, Paola (2007)**; *Professor, Department of Reading and Elementary Education;* B.A., University of Miami; M.S., University of Miami; Ph.D., University of Miami

**Pipkin, Amanda (2008)**; *Department Chair and Associate Professor, Department of History;* B.A., Wake Forest University; M.A., Leiden University, The Netherlands; Ph.D., Rutgers University

**Pitts, Andrea J. (2015)**; *Associate Professor, Department of Philosophy;* B.A., University of North Florida; M.A., University of South Florida

**Pizzato, Mark C. (1997)**; *Professor, Department of Theatre;* B.A., University of Notre Dame; M.F.A., The Catholic University of America; Ph.D., University of Wisconsin - Milwaukee

**Platonova, Elena A. (2007)**; *Associate Professor, Department of Health Management and Policy;* M.H.A., University of South Carolina; Ph.D., University of Alabama at Birmingham

**Poler, Jordan C. (1995)**; *Professor, Department of Chemistry;* B.S., College at Brockport, State University of New York; Ph.D., University of North Carolina at Chapel Hill

**Polk, Thomas E. (2017)**; *Lecturer, Department of Computer Science;* B.S., Virginia Polytechnic Institute and State University; M.S., Virginia Polytechnic Institute and State University; Ph.D., University of North Carolina at Charlotte

**Pollock, Sarah H. (2015)**; *Lecturer, Department of Sociology;* B.A., Loyola College; M.A., Temple University

**Polly, Andrew B. (2006)**; *Interim Department Chair and Professor, Department of Reading and Elementary Education;* B.S., College of William & Mary; M.S., Old Dominion University; Ph.D., University of Georgia

**Pope, Jon C. (2016)**; *Lecturer, Department of Writing, Rhetoric, and Digital Studies;* B.A., University of Southern Mississippi; M.L.I.S., University of Southern Mississippi

**Porras-Aguilar, Rosario G. (2017)**; *Associate Professor, Ishwar Aggarwal Department of Physics and Optical Science;* M.S., National Institute for Research in Astrophysics, Italy; Ph.D., National Institute for Research in Astrophysics, Italy

**Potochnick, Stephanie (2019)**; *Associate Professor, Department of Sociology;* B.A., Emory University; M.A., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Chapel Hill

**Potrykus, Bianca (2016)**; *Lecturer, Department of Languages, Cultures, and Translation;* M.A., University of Hamburg, Germany

**Poutous, Menelaos (2013)**; *Associate Professor, Ishwar Aggarwal Department of Physics and Optical Science;* B.S., Fairleigh Dickinson University; M.S., Fairleigh Dickinson University; Ph.D., Georgia Institute of Technology

**Powell, Laurel B. (44788)**; *Lecturer, Department of Middle Grades, Secondary, and K-12 Education;* B.S., Catawba College; M.S., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Powers, Kelly (2008)**; *Associate Professor, School of Nursing;* B.S.N., Villanova University; M.S.N., William Patterson University; Ph.D., University of Nevada, Las Vegas

**Prasad, Ritika (2009)**; *Associate Professor, Department of History;* B.A., Delhi University, India; M.A., Magdalen College, University of Oxford, England; M.A., University of California, Los Angeles; Ph.D., University of California, Los Angeles

**Pratt, Gretchen (2012)**; *Lecturer, Department of Writing, Rhetoric, and Digital Studies;* B.A., College of Charleston; M.F.A., Purdue University

**Price, Bob R. (2012)**; *Associate Dean for Planning, Innovation, and Engagement, J. Murrey Atkins Library;* B.S.B.A., Indiana University South Bend; M.A., Azusa Pacific University

**Price, Richard G. (2018)**; *Lecturer, Department of Engineering Technology and Construction Management;* A.S., York Technical College; B.S., Clemson University; M.E.M., Duquesne University

**Pruett, Jenna (45880)**; *Assistant Teaching Professor/Lecturer, Department of Biological Sciences;* Ph.D., Auburn University; B.S., Clemson University

**Pugalenthi, Premkumar (2022)**; *Clinical Assistant Professor, Department of Middle Grades, Secondary, and K-12 Education;* B.S., Amrita Vishwa Vidyapeetham, India; M.S., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Pujol, Anton (2004)**; *Professor, Department of Languages, Cultures, and Translation;* M.B.A., The University of Chicago; M.A., University of South Carolina at Columbia; Ph.D., The University of Kansas

**Qian, Sijia (45880)**; *Assistant Professor, School of Data Science;* Ph.D., University of California; M.A., University of Utah; B.A., Nanjing Normal University

**Quinlan, Margaret M. (2009)**; *Professor, Department of Communication Studies;* B.S., Marist College; M.A., Illinois State University; Ph.D., University of Ohio

**Rabinovich, Daniel (1996)**; *Professor, Department of Chemistry;* B.S., Pontifical Catholic University of Peru; M.A., Columbia University; M.Phil., Columbia University; Ph.D., Columbia University

**Rafe, LaTonya (2022)**; *Lecturer, School of Nursing;* B.S.N., Olivet Nazarene University; M.S.N., Olivet Nazarene University

**Rahman, A B M Mohaimenur (2022)**; *Teaching Assistant Professor, Department of Software and Information Systems;* B.S., Bangladesh University of Engineering and Technology, India; Ph.D., University of North Carolina at Charlotte

**Rajagopalan, Angela M. (2005)**; *Department Chair and Associate Professor, Department of Art and Art History;* B.S., University of California, Berkeley; M.Phil., Graduate Center, City University of New York; Ph.D., Graduate Center, City University of New York

**Rajasekhar, Yamuna (2014)**; *Visiting Lecturer, Department of Electrical and Computer Engineering;* B.S., University of Mumbai; M.S., University of North Carolina at Charlotte

**Ramaprabhu, Praveen (2007)**; *Professor, Department of Mechanical Engineering and Engineering Science;* B.S., Anna University; M.S., University of Houston; Ph.D., Texas A&M University

**Ramaprasad, Harini (2014)**; *Associate Dean for Undergraduate Programs and Student Success, Department of Computer Science;* B.S., Bangalore University; M.S.; Ph.D., North Carolina State University

**Ramesh, Divya (45880)**; *Assistant Professor, Department of Software and Information Systems;* Ph.D., University of Michigan; Graduate Certificate, University of Michigan; M.S., University of Southern California; M.S., Ramaiah Institute of Technology, Bangalore, India

**Ramsey, Sonya Y. (2007)**; *Professor, Department of History;* B.A., Howard University; M.A.; Ph.D., University of North Carolina at Chapel Hill

**Randle, Natasha (2018)**; *Associate Dean for Undergraduate Programs, Department of Management; Clinical Assistant Professor;* B.B.A., North Carolina Central University; M.B.A., Meredith College; Ph.D., Jackson State University

**Ranis, Marek P. (2008)**; *Professor, Department of Art and Art History;* M.F.A., Eugeniusz Geppert Academy of Fine Arts, Poland

**Rankin, Victoria E. (2018)**; *Lecturer, Department of Sociology;* B.A., Hunter College; M.S., Hunter College; M.U.P., Hunter College; Ph.D., University of Virginia

**Raquet, Jeffrey S. (2001)**; *Senior Lecturer, Department of Mechanical Engineering and Engineering Science;* B.S., Rutgers University; M.S., University of Memphis; Ph.D., University of North Carolina at Charlotte

**Ras, Zbigniew W. (1981)**; *Professor, Department of Computer Science;* M.A., Warsaw University, Poland; Ph.D., Warsaw University, Poland

**Rasanen, Ryan (2024)**; *Assistant Professor, Department of Civil and Environmental Engineering;* B.S., University of North Dakota; M.S., University of Washington; Ph.D., University of Washington

**Rasmussen, Lisa M. (2006)**; *Professor, Department of Philosophy;* B.S., University of California, Santa Cruz; M.A., Rice University; Ph.D., Rice University

**Rauch, Alan (2002)**; *Professor, Department of English;* B.S., McGill University; M.S., Southern Illinois University; M.A., Rutgers University; Ph.D., Rutgers University

**Ravindran, Arun (2003)**; *Associate Professor, Department of Electrical and Computer Engineering;* B.S., Birla Institute of Technology and Science, India; M.S., Birla Institute of Technology and Science, India; M.S., Ohio State University; Ph.D., Ohio State University

**Ravyts, Scott (2024)**; *Assistant Professor, Department of Psychological Science;* B.A., University of Texas at Austin; M.S., University of North Carolina at Charlotte; M.S., Virginia Commonwealth University; Ph.D., Virginia Commonwealth University

**Rebich, Susan K. (1999)**; *Lecturer, Office of School and Community Partnerships, Cato College of Education;* B.S., Youngstown State University; M.Ed., University of North Carolina at Charlotte

**Reed, Jennifer (2024)**; *Lecturer, Department of Mathematics and Statistics;* B.S., Mars Hill College; M.A., Western Carolina University; Ph.D., Gardner-Webb University

**Reeve, Charlie L. (2004)**; *Professor, Department of Psychological Science;* B.A., University of Minnesota-Twin Cities; M.A., Bowling Green State University; Ph.D., Bowling Green State University

**Reid, Shannon (2013)**; *Associate Professor, Department of Criminal Justice and Criminology;* B.S., University of New Haven; M.S., American University; Ph.D., University of California, Irvine

**Reinke, Luke T. (2017)**; *Assistant Professor, Department of Reading and Elementary Education;* B.S.E., Duke University; M.A.T., Duke University; Ph.D., University of Pennsylvania

**Reisdorf, Bianca C. (2018)**; *Professor, Department of Communication Studies;* B.A., Philipps University of Marburg, Germany; M.A., University of Bielefeld, Germany; D. Phil., University of Oxford, England

**Reiter, Harold B. (1972)**; *Professor, Department of Mathematics and Statistics;* B.S., Louisiana State University; M.S., Clemson University; Ph.D., Clemson University

**Reitzel, Adam M. (2012)**; *Associate Dean for Research and Graduate Studies, Klein College of Science;* B.A., Illinois Wesleyan University; M.S., University of Florida; Ph.D., Boston University

**Ren, Xiaojun (2024)**; *Associate Professor & Irwin Belk Distinguished Scholar, Department of Biological Sciences;* B.Eng., Jilin University, China; M.S., Jilin University, China; Ph.D., Jilin University, China

**Reynolds, Valerie S. (2015)**; *Lecturer, Department of Earth, Environmental, and Geographical Sciences;* B.S., University of North Carolina at Wilmington; M.S., University of Tennessee; Ph.D., University of Tennessee

**Ricciutti, Natalie M. (44789)**; *Assistant Professor, Department of Counseling;* B.S., University of Mount Union; M.S.Ed., Youngstown State University; Ph.D., Kent State University

**Rice, Jacelyn (2017)**; *Assistant Professor, Department of Engineering Technology and Construction Management;* B.S.E., University of Nevada, Las Vegas; M.S., Arizona State University; Ph.D., Arizona State University

**Richardson, Christine A. (2006)**; *Department Chair and Professor, Department of Biological Sciences;* A.B., Princeton University; M.A., Columbia University; M.Ph., Columbia University; Ph.D., Columbia University

**Richardson, Jeremy (2024)**; *Assistant Professor, Turner School of Accountancy;* B.A., Furman University; M.S., College of Charleston; Ph.D., Texas Tech University

**Riffe, Nancy A. (2018)**; *Associate Teaching Professor, Department of Communication Studies;* B.A., George Mason University; M.A., University of Alabama; Ph.D., University of Alabama

**Rinalducci, Jennifer (2016)**; *Assistant Professor and Arts + Architecture Librarian, J. Murrey Atkins Library;* B.A., Lehigh University; M.A., Florida State University; M.L.S., University of North Carolina at Chapel Hill

**Roberts, Nicole (2016)**; *Assistant Professor, Department of Engineering Technology and Construction Management;* B.S., South Carolina State University; M.S., Clemson University; Ph.D., Clemson University

**Robinson, Jacqueline (2021)**; *Lecturer, Department of Marketing;* M.B.A., Duke University

**Robinson Moore, Julia (2005)**; *Associate Professor, Department of Religious Studies;* B.A., Alma College; M.Div., Princeton Theological Seminary; Ph.D., Michigan State University

**Rock, Tracy (2000)**; *Professor, Department of Reading and Elementary Education;* B.A., University of North Carolina at Charlotte; M.A., University of North Carolina at Greensboro; Ph.D., University of North Carolina at Greensboro

**Rodriguez, Monica (2014)**; *Professor, Department of Languages, Cultures, and Translation;* B.A., University of Vigo; M.A., University of Wisconsin-Milwaukee; Ph.D., Kent State University

**Rodriguez-Medina, Bienvenido (2014)**; *Lecturer/Lab Manager, Department of Electrical and Computer Engineering;* B.S.E.E., University of Puerto Rico at Mayagüez; M.S.E.E., University of Puerto Rico at Mayagüez; Ph.D., Mississippi State University

**Roeder, Rebecca V. (2008)**; *Associate Professor, Department of English;* M.A., University of Wisconsin-Madison; Ph.D., Michigan State University

**Rogelberg, Steven (2003)**; *Professor, Department of Psychological Science;* B.S., Tufts University; M.A., University of Connecticut; Ph.D., University of Connecticut

**Rogers, Rebekah L. (2017)**; *Associate Professor, Department of Bioinformatics and Genomics;* B.S., University of Georgia; Ph.D., Harvard University

**Rolan, Lisa (2023)**; *Clinical Assistant Professor, Department of Marketing;* B.S., North Carolina Wesleyan College; M.B.A., Pfeiffer University; D.B.A., University of North Carolina at Charlotte

**Roland, Kristin (2023)**; *Clinical Professor, Turner School of Accountancy;* B.S., California State University; Ph.D., University of Colorado at Boulder

**Rorrer, Audrey S. (2019)**; *Research Associate Professor, Department of Computer Science;* B.S., Guilford College; M.A., Appalachian State University; Ph.D., University of North Carolina at Charlotte

**Ross, Ticola C. (2017)**; *Clinical Assistant Professor, School of Social Work;* B.A., North Carolina State University; M.S., North Carolina State University; M.S.W., University of North Carolina at Charlotte

**Rothberg, Robin L. (2007)**; *Senior Lecturer, Department of Communication Studies;* B.S., Florida State University; M.A., State University of New York

**Rothrock, Kristin (2003)**; *Lecturer, Department of Art and Art History;* B.S., Skidmore College; M.F.A., University of Wisconsin-Madison

**Rowan, Diana M. (2007)**; *Director and Professor, School of Social Work;* B.S., State University of New York at Fredonia; M.S.W., Our Lady of the Lake University; Ph.D., University of Texas at Arlington

**Rowney, Matthew (2016)**; *Associate Professor, Department of English;* B.A., State University of New York at New Paltz; M.Phil., City University of New York; Ph.D., City University of New York

**Roy, Arindam (2018)**; *Associate Professor, Department of Mathematics and Statistics;* B.S., University of Calcutta, India; M.S., University of Calcutta, India; M.S., University of Texas - Pan American; Ph. D., University of Illinois at Urbana-Champaign

**Russell, David L. (2009)**; *Anne Reynolds Belk Distinguished Professor of Music, Department of Music;* B.M., Cleveland Institute of Music and Case Western Reserve University; M.M., Cleveland Institute of Music and Case Western Reserve University

**Russell-Pinson, Lisa (2019)**; *Assistant Teaching Professor, Center for Graduate Life;* B.A., University of South Carolina; M.S., Georgetown University; Ph.D., Georgetown University

**Rutherford-Hemming, Tonya (2018)**; *Clinical Assistant Professor, School of Nursing;* B.S.N., University of North Carolina at Chapel Hill; M.S.N., University of North Carolina at Chapel Hill; Ed.D., Northern Illinois University

**Sabol, Steven O. (1998)**; *Professor, Department of History;* B.A., Elon College; M.A., Old Dominion University; Ph.D., Georgia State University

**Sadaf, Ayesha (2016)**; *Associate Professor, Department of Educational Leadership;* B.S., Punjab University, Pakistan; M.S., Punjab University, Pakistan; M.S., Purdue University; Ph.D., Purdue University

**Safronov, Oleg (2005)**; *Associate Professor, Department of Mathematics and Statistics;* M.Sc., St. Petersburg State University; Ph.D., Royal Institute of Technology

**Sahoo, Lipsarani (2023)**; *Teaching Assistant Professor, Department of Software and Information Systems;* B.S., North Orissa University; M.S., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Salas, Spencer W. (2007)**; *Professor, Department of Middle, Secondary, and K-12 Education;* B.A., University of Virginia; M.Ed., George Washington University; Ph.D., University of Georgia

**Sanches de Oliveira, Paulo Tarso (46082)**; *Associate Professor, Department of Civil and Environmental Engineering;* Ph.D., University of Sao Paulo; M.Sc., Federal University of Mato Grosso do Sul, Brazil; B.Sc., Federal University of Mato Grosso do Sul, Brazil

**Sanders, Mark M. (2007)**; *Senior Lecturer, Department of Philosophy;* B.A., New College of South Florida; M.A., The New School for Social Research; Ph.D., The New School for Social Research

**Sandlin, Adam B. (44788)**; *Lecturer, Department of Writing, Rhetoric, and Digital Studies;* B.A., University of North Carolina at Charlotte; M.A., Virginia Tech University

**Saqib, Fareena (2017)**; *Associate Professor, Department of Electrical and Computer Engineering;* B.I.T., National University of Sciences and Technology, Pakistan; M.S.C.E., University of New Mexico; Ph.D., University of New Mexico

**Saral, Krista J. (2019)**; *Associate Professor, Department of Economics;* B.A., Florida State University; M.S., Florida State University; Ph.D., Florida State University

**Sarkar, Kaustavi (2018)**; *Associate Professor, Department of Dance;* B.S., Calcutta University, India; M.S., Texas A&M University; Ph.D., Ohio State University

**Sashington, Niki (2020)**; *Lecturer, College;* B.S., South Carolina State University; M.A.T., Wingate University; M.A., Wingate University

**Sass, Ronald (2006)**; *Professor, Department of Electrical and Computer Engineering;* B.S., University of Toledo; M.S., Ph.D. Michigan State University

**Saule, Erik (2013)**; *Professor, Department of Computer Science;* Ph.D., Laboratoire d'Informatique de Grenoble, France

**Saunders, William L. (2007)**; *Lecturer, Department of Civil and Environmental Engineering;* B.S.C.E., University of North Carolina at Charlotte; M.S.C.E., University of North Carolina at Charlotte; Ph.D., North Carolina State University

**Savage, Dylan (2002)**; *Professor, Department of Music;* B.M., Oberlin College; M.M., Indiana University at Bloomington; D.M., Indiana University at Bloomington

**Savaiinaea, Tianran (2016)**; *Lecturer, Department of Languages, Cultures, and Translation;* B.A., Nanjing University, China; M.A., University of Virginia

**Scheadler, Travis (45880)**; *School of Social Work Assistant Professor, School of Social Work;* Ph.D., Ohio State University; M.S.W., Ohio State University; M.S., University of Kentucky; B.A., Wilmington College

**Scheff, Jacob S. (2017)**; *Associate Professor, Department of Earth, Environmental, and Geographical Sciences;* B.S., University of Illinois at Urbana-Champaign; M.S., University of Washington; Ph.D., University of Washington

**Scheid, Teresa L. (1990)**; *Professor, Department of Sociology;* B.A., Heidelberg College; M.S., Texas A&M University; Ph.D., North Carolina State University

**Schlueter, Jessica A. (2009)**; *Professor, Department of Bioinformatics and Genomics;* B.S., Texas A&M University; Ph.D., Iowa State University

**Schmedake, Thomas (2002)**; *Department Chair and Professor, Department of Chemistry;* B.A., Knox College; Ph.D., University of Wisconsin-Madison

**Schmid, Steven (2019)**; *Distinguished Professor, Department of Mechanical Engineering and Engineering Science;* B.S., Illinois Institute of Technology; M.S., Northwestern University; Ph.D., Northwestern University

**Schmidt, Leslie W. (44788)**; *Clinical Assistant Professor, Department of Reading and Elementary Education;* B.S., East Carolina University; M.A., East Carolina University; Ph.D., University of North Carolina at Charlotte

**Schmidt, Thomas M. (2013)**; *Professor, Department of Art and Art History;* B.A., Loyola University; M.F.A., Alfred University

**Schmitz, Dawn (2012)**; *Digital Programs Archivist, and Associate Professor, J. Murrey Atkins Library;* B.A., University of Wisconsin-Madison; M.A., University of Pittsburgh; M.L.I.S., University of Pittsburgh; Ph.D., University of Pittsburgh

**Schmutz, Vaughn (2011)**; *Associate Professor, Department of Sociology;* B.S., Brigham Young University; M.S., Brigham Young University; M.A., Emory University; Ph.D., Emory University

**Schroering, Caitlin H. (44789)**; *Assistant Professor, Department of Global Studies;* B.A., Denison University; M.A., University of Florida; Ph.D., University of Pittsburgh

**Schuckers, Michael (45516)**; *Professor, School of Data Science;* Ph.D., Iowa State University

**Schuckers, Stephanie (2024)**; *Bank of America Distinguished Professor, Department of Computer Science;* B.S.E., Iowa State University; M.S.E., University of Michigan; Ph.D., University of Michigan

**Schulkind, Lisa (2014)**; *Associate Professor, Department of Economics;* B.A., Union College; M.A., University of California, Davis; Ph.D., University of California, Davis

**Scipioni, Marco (44929)**; *Associate Teaching Professor, School of Data Science;* B.S., University of North Carolina at Charlotte; M.S., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Scott, Clifton W. (2005)**; *Professor, Department of Communication Studies;* B.S., Bradley University; M.A., Northern Illinois University; Ph.D., Arizona State University

**Scott, Victoria C. (2015)**; *Associate Professor, Department of Psychological Science;* B.A., Emory University; M.A., University of South Carolina; M.B.A., University of South Carolina; Ph.D., University of South Carolina

**Sears, Alison (2019)**; *Teaching Assistant Professor, Department of Engineering Technology and Construction Management;* B.S., West Virginia University; M.S., West Virginia University; Ph.D., West Virginia University

**Serrata, Luz del Carmen (2023)**; *Assistant Professor, Department of Educational Leadership;* A.A., Del Mar College; B.B.A., Texas A&M University; M.Ed., University of Texas at San Antonio; Ph.D., University of Texas at Austin

**Seth, Pyar (45880)**; *Assistant Professor, Department of Africana Studies;* Ph.D., Johns Hopkins University; M.A., Johns Hopkins University; M.A., Johns Hopkins University; B.A., Trinity University

**Settlemier, Whitney (44743)**; *Lecturer/Fac Site Coord, School and Community Partnership, Cato College of Education;* B.S., James Madison University; M.Ed., Queens University - NC

**Sexton, Jill (45731)**; *Dean of the Library, J. Murrey Atkins Library;* B.A., Rowan College; M.S., University of North Carolina at Chapel Hill

**Sha, Wei (2008)**; *Research Assistant Professor, Department of Bioinformatics and Genomics;* B.Med., Capital Medical University; M.S., Virginia Polytechnic Institute and State University; Ph.D., Virginia Polytechnic Institute and State University

**Shaikh, Samira (2016)**; *Associate Professor, Department of Computer Science;* B.Eng., L.D. College of Engineering, Ahmedabad, Gujarat, India; M.S., State University of New York; Ph.D., State University of New York

**Shankar, Ramesh (2014)**; *Research Professor, Energy Production and Infrastructure Center (EPIC);* B.Tech., Indian Institute of Technology, India; M.B.A., Queens University; M.S.E.E., University of Delaware; Ph.D., University of Delaware

**Sharma, Aditi (2007)**; *Lecturer, Ishwar Aggarwal Department of Physics and Optical Science;* B.E., Birla Institute of Technology and Science, India; M.S., Birla Institute of Technology and Science, India; M.S., University of Cincinnati; Ph.D., University of Cincinnati

**Shaw, George (2018)**; *Associate Professor, Department of Health Management and Policy;* B.S.B.A., Charleston Southern University; M.S., North Carolina A&T State University; Ph.D., University of South Carolina

**Shealy, Daniel L. (1988)**; *Professor, Department of English;* B.A., Newberry College; M.A., University of South Carolina; Ph.D., University of South Carolina

**Shears, Jeffrey K. (2022)**; *Professor, School of Social Work;* B.S.W., North Carolina Agricultural and Technical State University; M.Ed., North Carolina Agricultural and Technical State University; Ph.D., University of Denver

**Sheeler, Cory G. (2015)**; *Lecturer, School of Nursing;* B.S., East Carolina University; R.N., Queens University of Charlotte; M.S.N., University of North Carolina at Chapel Hill

**Shehab, Mohamed (2007)**; *Professor, Department of Software and Information Systems;* B.S., United Arab Emirates University; Ph.D., Purdue University

**Shelton, Sarah H. (2018)**; *Clinical Assistant Professor, Department of Applied Physiology, Health, and Clinical Sciences;* A.A.S., Catawba Valley Community College; B.A., Ashford University; M.S., University of Charleston; Ph.D., University of Charleston

**Shepherd, Mary Jo (2012)**; *Lecturer, Department of Political Science and Public Administration;* B.A., University of North Carolina at Charlotte; M.S., Baylor University

**Sherman, William Edward (2017)**; *Associate Professor, Department of Religious Studies;* B.A., Stanford University; M.A., University of California, Los Angeles; Ph.D., Stanford University

**Shields, Jennifer (2008)**; *Visiting Lecturer, David R. Ravin School of Architecture;* B.S., University of Virginia; M.A., University of Virginia

**Shin, Min C. (2001)**; *Department Chair and Professor, Department of Computer Science;* B.A., University of South Florida; M.S., University of South Florida; Ph.D., University of South Florida

**Shiridevich, Samira (44788)**; *Assistant Professor, Department of Art and Art History;* A.A., Shariaty Technical College, Tehran; B.A., Nasibeh Teacher Training College, Tehran; M.A., Art University of Tehran; M.F.A., University of Florida

**Shirley, Terry R. (2006)**; *Lecturer, Department of Earth, Environmental, and Geographical Sciences;* B.S., Pennsylvania State University; M.S., Pennsylvania State University

**Shoghli, Omidreza (2017)**; *Assistant Professor, Department of Engineering Technology and Construction Management;* B.S., Iran University of Science and Technology; M.S., Iran University of Science and Technology; Ph.D., Virginia Polytechnic Institute and State University

**Shue, Samuel (2021)**; *Teaching Assistant Professor, Department of Electrical and Computer Engineering;* B.S., University of North Carolina at Charlotte; M.S., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Shull, Kristina K. (2020)**; *Associate Professor, Department of History;* B.A., University of California, Los Angeles; M.A., New York University; M.A., University of California, Irvine; Ph.D., University of California, Irvine

**Shuster, Martin (44743)**; *Distinguished Professor, Department of Philosophy;* B.A., University of Maryland; M.A., Yale University; M.A., Johns Hopkins University; Ph.D., Johns Hopkins University

**Siler, Elizabeth M. (2013)**; *Associate Dean for Collection Services, J. Murrey Atkins Library; Assistant Professor;* B.A., Elon University; M.S.L.S., University of Kentucky

**Silver, Reginald (2014)**; *Clinical Professor, Department of Business Information Systems and Operations Management; Clinical Assistant Professor;* B.S., North Carolina State University; M.B.A., East Carolina University; DrPH, University of North Carolina at Chapel Hill

**Simmons, Adreonna N. (2019)**; *Assistant Professor, Community Engagement Librarian, and Archivist, J. Murrey Atkins Library;* B.A., University of North Carolina at Chapel Hill; M.L.S., North Carolina Central University

**Singer, Christina L. (2021)**; *Assistant Professor, Department of Art and Art History;* B.F.A., East Tennessee State University; M.F.A., University of Florida

**Sireli, Afife Yesim (2003)**; *Associate Professor, Department of Industrial and Systems Engineering;* B.S., Istanbul Technical University, Turkey; M.S., Istanbul Technical University, Turkey; Ph.D., Old Dominion University

**Skillen, Joseph (2020)**; *Department Chair and Professor, Department of Music;* B.S., Tennessee Tech University; M.M., Pennsylvania State University; D.M.A., Michigan State University

**Slane, Lauren (2025)**; *Teaching Assistant Professor, Department of Computer Science;* B.A., Monclair State University; M.A., SIT Graduate Institution; Ed.D., University of North Carolina at Charlotte

**Slowey, Chase (45880)**; *Assistant Teaching Professor, Department of Chemistry;* Ph.D., University of North Carolina at Chapel Hill; B.S., Centre College

**Smelser, Ronald E. (2003)**; *Professor, The William States Lee College of Engineering; Professor, Department of Mechanical Engineering and Engineering Science*; S.M.E., University of Cincinnati; S.M.M.E., Massachusetts Institute of Technology; Ph.D., Carnegie Mellon University

**Smith, Aimee (2023)**; *Assistant Professor, Department of Psychological Science;* B.A., Winthrop University; M.A., Kent State University; Ph.D., Kent State University

**Smith, Amanda B. (44788)**; *Lecturer, School of Nursing;* B.S., St. John Fisher College; M.S.N., Queens University - NC

**Smith, Benjamin C. (2019)**; *Lecturer, Department of Engineering Technology and Construction Management;* B.S., North Carolina State University; M.C.E., North Carolina State University

**Smith, Christopher (2024)**; *Assistant Professor, School of Nursing;* A.D.N., Wayne Community College; B.S.N., Appalachian State University; M.S.N., Appalachian State University; Post-Master Certificate, East Carolina University; Ph.D., East Carolina University

**Smith, Courtney S. (2014)**; *Asssistant Dean for Student Experiences, Department of Electrical and Computer Engineering;* B.S., Norfolk State University; M.S., Norfolk State University

**Smith, Dale L. (2016)**; *Department Chair and Professor, Department of Global Studies;* A.A., Schiller International University; B.A., University of Southern California; Ph.D., Massachusetts Institute of Technology

**Smith, Debra (1998)**; *Associate Professor, Department of Africana Studies;* B.A., University of North Carolina at Chapel Hill; M.A., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Greensboro

**Smith, Dustin W. (44788)**; *Clinical Assistant Professor, Department of Applied Physiology, Health, and Clinical Sciences;* B.S., University of Central Florida; M.A., University of Central Florida

**Smith, Heather A. (1999)**; *Professor, Department of Earth, Environmental, and Geographical Sciences;* B.A., University of North Carolina at Chapel Hill; M.A., Queens University, Canada; Ph.D., University of British Columbia, Canada

**Smith, John David (2004)**; *Charles H. Stone Distinguished Professor of American History, Department of History;* A.B., Baldwin-Wallace College; A.M., University of Kentucky; Ph.D., University of Kentucky

**Smith, Michael S. (2019)**; *Associate Professor, Department of Engineering Technology and Construction Management;* B.S.E.T., University of North Carolina at Charlotte; M.S.E.E., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Smith, Patrick (44773)**; *Associate Professor, Department of Finance; Crosland Distinguished Scholar in Real Estate;* B.S., University at Buffalo; M.B.A., University at Buffalo; Ph.D., Georgia State University

**Smith, Rita (2017)**; *Clinical Assistant Professor, Department of Management;* B.A., Rutgers University; M.B.A., Nova Southeastern University; D.Ed., Florida International University

**Smith, Stuart T. (1994)**; *Professor, Department of Mechanical Engineering and Engineering Science;* B.S., Dunstable College, England; Ph.D., University of Warwick, England

**Smith-Ruiz, Dorothy (1992)**; *Professor, Department of Africana Studies;* B.A., Fort Valley State College; M.A., Michigan State University; Ph.D., Michigan State University

**Smithwick, Jake (2016)**; *Associate Professor, Department of Engineering Technology and Construction Management;* B.S., Arizona State University; M.S., Arizona State University; M.P.A., Arizona State University; Ph.D., Arizona State University

**Snyder, Gregory (1994)**; *Associate Professor, David R. Ravin School of Architecture;* B.S., University of Texas at Arlington; M.Arch., Rice University

**Socolovsky, Maya (2008)**; *Associate Professor, Department of English;* B.A., University of Leeds; M.A., Vanderbilt University; Ph.D., University of Oxford

**Sofsky, William A. (2015)**; *Lecturer, Turner School of Accountancy;* B.B.A., Loyola College; M.B.A., Loyola College

**Soliz Urrutia, Carmen (2014)**; *Associate Professor, Department of History;* B.A., Universidad Nuestra Señora de La Paz, Bolivia; M.A., Universidad de Salamanca, Spain; M.A., Universidad de la Cordillera, Bolivia; Ph.D., New York University

**Somayaji, Shankari N. (2018)**; *Lecturer, Department of Biological Sciences;* M.S., University of Hyderabad; Ph.D., University of North Carolina at Charlotte

**Song, Bao-Hua (Alysa) (2012)**; *Associate Professor, Department of Biological Sciences;* M.S., Shandong Normal University, China; Ph.D., Chinese National Academy of Sciences

**Song, Jun (2017)**; *Assistant Professor, Department of Mathematics and Statistics;* B.S., Seoul National University, South Korea; Ph.D., Pennsylvania State University

**Song, Lingguang (2023)**; *Department Chair and Professor, Department of Engineering Technology and Construction Management;* B.S., Tianjin University; M.S., Tianjin University; Ph.D., University of Alberta

**Sonin, Isaac M. (1991)**; *Professor, Department of Mathematics and Statistics;* M.S., Moscow State University, Russia; Ph.D., Moscow State University, Russia

**Souffrant, Eddy (2023)**; *Department Chair and Professor, Department of Philosophy;* B.A., DePaul University; Ph.D., The City University of New York Graduate School and University Center

**Souffrant, Eddy M. (2004)**; *Associate Professor, Department of Philosophy;* B.A., DePaul University; Ph.D., The City University of New York Graduate School and University Center

**Souvenir, Richard M. (2006)**; *Associate Professor, Department of Computer Science;* B.S., Washington University; M.S., Washington University; D.Sc., Washington University

**Spainhour, Cheryl (2003)**; *Lecturer, Department of Communication Studies;* B.A., University of Georgia; M.A., Wake Forest University

**Spano, Fred (2008)**; *Associate Professor, Department of Music;* B.A., William Penn College; M.M., Westminster Choir College; Ph.D., Florida State University

**Spence, Kyle (2024)**; *Assistant Professor, David R. Ravin School of Architecture;* B.Arch., Howard University; M.S., Columbia University

**Sperry, David P. (2013)**; *Director of Venture and Lecturer, Department of Applied Physiology, Health, and Clinical Sciences;* B.A., Houghton College; M.S.Ed., Alfred University

**Spillane, Susan (2023)**; *Lecturer, Department of Writing, Rhetoric, and Digital Studies;* B.A., Appalachian State University; M.A., University of North Carolina at Charlotte

**Spooner, Frederick H. (1981)**; *Professor, Department of Special Education and Child Development;* B.S., Butler University; M.S., Butler University; Ph.D., University of Florida

**Spry, Ashley D. (2018)**; *Lecturer, Department of Engineering Technology and Construction Management;* B.S.M.E., University of North Carolina at Charlotte; M.S., North Carolina State University

**Sridhar, Meera (2014)**; *Associate Professor, Department of Software and Information Systems;* B.S., Carnegie Mellon University; M.S., Carnegie Mellon University; Ph.D., University of Dallas at Texas

**Stahl, Shayna (2019)**; *Lecturer, Department of Music;* B.M., Temple University; M.A., State University of New York at Stony Brook; M.M.Ed., University of Hartford

**Stamper, Brandy J.H. (2015)**; *Associate Teaching Professor, Department of Communication Studies;* B.A., University of North Carolina at Charlotte; M.A., University of North Carolina at Charlotte

**Stanley, Laura J. (2015)**; *Professor, Department of Management;* B.S.B.A., University of North Carolina at Chapel Hill; M.Ac., University of North Carolina at Chapel Hill; M.Ed., University of Georgia; Ph.D., University of Georgia

**Starker, Tehia V. (2008)**; *Associate Professor, Department of Reading and Elementary Education;* B.A., Bethune-Cookman University; M.A., University of Northern Iowa; Ph.D., University of Nebraska

**Starrett, Gregory S. (1992)**; *Department Chair and Professor, Department of Anthropology;* B.A., Northwestern University; M.A., Stanford University; Ph.D., Stanford University

**Stearns, Mary Elizabeth (2005)**; *Professor, Department of Sociology;* B.A., Rice University; M.A., University of North Carolina at Chapel Hill; Ph.D., University of North Carolina at Chapel Hill

**Stedman, Allison M. (2007)**; *Professor, Department of Languages, Cultures, and Translation;* A.B., Dartmouth College; A.M., Dartmouth College; M.A., University of Pennsylvania; Ph.D., University of Pennsylvania

**Steele, Lucy A. (2012)**; *Lecturer, Department of Writing, Rhetoric, and Digital Studies;* B.A., University of South Carolina; M.A., University of North Carolina at Charlotte

**Stellwagen, Sarah D. (44929)**; *Research Assistant Professor, Department of Biological Sciences;* B.A., Clemson University; M.S., Clemson University; Ph.D., Virginia Tech University

**Stephan, Michelle L. (2011)**; *Professor, Department of Middle, Secondary, and K-12 Education;* B.S., Vanderbilt University; M.S., Mississippi State University; Ph.D., Vanderbilt University

**Stickels, Benjamin G. (2011)**; *Lecturer, College of Arts + Architecture;* B.A., Western Michigan University; M.F.A., University of Missouri at Kansas City

**Stogner, John M. (2013)**; *Professor, Department of Criminal Justice and Criminology;* B.S., North Carolina State University; B.A., North Carolina State University; M.S., University of North Carolina at Charlotte; Ph.D., University of Florida

**Stokes, Ashli Q. (2006)**; *Interim Department Chair and Professor, Department of Communication Studies;* B.A., Virginia Polytechnic Institute and State University; M.A., Wake Forest University; Ph.D., University of Georgia

**Stone, Amanda (2023)**; *Visiting Lecturer, Department of Earth, Environmental, and Geographical Sciences;* B.S., East Carolina University; M.S, University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Stone, Shaun M. (2013)**; *Lecturer, Department of Languages, Cultures, and Translation;* B.A., Furman University; M.A., University of North Carolina at Charlotte

**Stover, Tyler E. (44788)**; *Teaching Associate Professor, Department of Mechanical Engineering and Engineering Science;* B.S., Azusa Pacific University; B.S., Purdue University; M.S., Purdue University

**Strah, Nicole (44789)**; *Professor, Department of Management;* B.S., University of Illinois at Urbana-Champaign; M.S., Purdue University; Ph.D., Purdue University - West Lafayette

**Strickland, Jamie (2001)**; *Lecturer, Department of Earth, Environmental, and Geographical Sciences;* B.S., University of North Carolina at Charlotte; M.A., University of North Carolina at Charlotte; Ph.D., University of Georgia

**Stringfellow, Rodney (2024)**; *Lecturer, Department of Communication Studies;* B.A., Purdue University; M.S., Pratt Institute

**Striplin, Caryn (2000)**; *Lecturer, Department of Chemistry;* B.S., California State University, Chico; Ph.D., Washington State University

**Stroud, Josiah (2015)**; *Lecturer, English Language Training Institute;* B.A., University of North Carolina at Charlotte; M.A.T., University of North Carolina at Charlotte

**Stuart, Jennifer Ames (2013)**; *Associate Dean for Graduate and Executive Programs, Belk College of Business; Assistant Professor, Department of Marketing*; B.A., University of Pittsburgh; M.S., University of Pittsburgh; M.B.A., University of Pittsburgh; M.Phil., Columbia University; Ph.D., Columbia University

**Su, Hsin-Hao (2017)**; *Assistant Professor, Department of Computer Science;* B.S., National Tsing Hua University, Taiwan; M.S., University of Michigan; Ph.D., University of Michigan

**Su, ZhengChang (2006)**; *Professor, Department of Bioinformatics and Genomics;* B.S., Yunnan Agricultural University, China; M.S., Jilin University, China; M.S., University of Alabama at Birmingham; Ph.D., Jilin University, China

**Subramaniam, Chandrasekar (2003)**; *Department Chair and Associate Professor, Department of Business Information Systems and Operations Management;* B.E., Regional Engineering College of Trichy, India; Dipl., Indian Institute of Management, India; Ph.D., University of Illinois at Urbana-Champaign

**Subramanian, Kalpathi R. (1993)**; *Associate Professor, Department of Computer Science;* B.E., University of Madras, India; M.S., University of Texas at Austin; Ph.D., University of Texas at Austin

**Suclupe, Roger F. (2014)**; *Lecturer, School of Social Work;* B.A., Appalachian State University; M.S.W., University of North Carolina at Chapel Hill

**Suleski, Thomas J. (2003)**; *Professor, Ishwar Aggarwal Department of Physics and Optical Science;* B.S., University of Toledo; M.S., Georgia Institute of Technology; Ph.D., Georgia Institute of Technology

**Sullivan, Elizabeth (2016)**; *Associate Professor, Department of Music;* B.M., Stetson University; M.M., University of Illinois at Urbana-Champaign; Ph.D., University of Illinois at Urbana-Champaign

**Sulpy, Alessandra (2016)**; *Lecturer, Department of Art and Art History;* B.F.A., Maryland Institute College of Art; M.F.A., Indiana University Bloomington

**Sun, Mei (2016)**; *Assistant Professor, Department of Civil and Environmental Engineering;* B.E., Tsinghua University, China; M.S., Carnegie Mellon University; Ph.D., Carnegie Mellon University

**Sun, Yanqing (1994)**; *Professor, Department of Mathematics and Statistics;* B.S., Wuhan University of Technology, China; M.S., Huazhong University of Science and Technology, China; M.S., Florida State University; Ph.D., Florida State University

**Sun, Ying (45870)**; *Department Chair & Dean's Professor, Department of Mechanical Engineering and Engineering Science;* Ph.D., University of Iowa; M.S., University of Iowa; B.Eng., Tsinghua University

**Sung, Way (2016)**; *Associate Professor, Department of Bioinformatics and Genomics;* B.S., University of New Hampshire; Ph.D., University of New Hampshire

**Suresh Babu, Arun Vishnu (2022)**; *Teaching Assistant Professor, Department of Mechanical Engineering and Engineering Science;* B.S., Amrita Vishwa Vidyapeetham, India; M.S., Indian Institute of Science, India; Ph.D., North Carolina State University

**Syverson, Drew D. (2022)**; *Research Assistant Professor, Department of Earth, Environmental, and Geographical Sciences;* B.S., University of Minnesota; M.S., University of Minnesota; Ph.D., University of Minnesota

**Szmer, John J. (2008)**; *Professor, Department of Political Science and Public Administration;* B.A., University of Georgia; M.S., University of Georgia; J.D., University of Georgia; Ph.D., University of South Carolina

**Tabarraei, Alireza (2012)**; *Professor, Department of Mechanical Engineering and Engineering Science;* B.S., Sharif University of Technology, Iran; M.S., Sharif University of Technology, Iran; Ph.D., University of California, Davis

**Tabkhivayghan, Hamed (2016)**; *Associate Professor, Department of Electrical and Computer Engineering;* B.S., Sharif University of Technology, Iran; M.S., Sharif University of Technology, Iran; Ph.D., Northeastern University

**Tabor, James D. (1989)**; *Professor, Department of Religious Studies;* B.A., Abilene Christian University; M.A., Pepperdine University; Ph.D., The University of Chicago

**Talukder, Ashit (2015)**; *Professor, Department of Computer Science;* B.S., Osmania University, India; M.S., Iowa State University; Ph.D., Carnegie Mellon University

**Tang, Wenwu (2010)**; *Professor, Department of Earth, Environmental, and Geographical Sciences;* B.S., East China Normal University, China; M.S., Nanjing University, China; Ph.D., The State University of Iowa

**Tanyi, Paul N. (2015)**; *Associate Professor, Turner School of Accountancy;* B.S., University of Buea; M.S., Illinois State University; M.B.A., Illinois State University; Ph.D., Florida International University

**Tarr, Clayton C. (2018)**; *Visiting Lecturer, Department of English;* B.A., Indiana University; M.A., University of South Carolina; Ph.D., University of Georgia

**Tate, Ashley (44788)**; *Assistant Professor, Department of Dance;* B.S., Texas Christian University; M.F.A., Washington University

**Taylor, Brian (2023)**; *Lecturer, Department of Music;* B.M., University of Texas at Austin; B.A., University of Texas at Austin; M.M., Michigan State University; D.M.A., Michigan State University

**Taylor, David Bruce (2004)**; *Professor, Department of Reading and Elementary Education;* B.A., University of Texas at Austin; M.Ed., University of Houston; Ph.D., University of Iowa

**Taylor, Desiré J. (2012)**; *Lecturer, Department of Mathematics and Statistics;* B.S., University of North Carolina at Charlotte; M.S., University of North Carolina at Charlotte

**Taylor, Heather F. (44788)**; *Clinical Assistant Professor, Department of Special Education and Child Development;* B.S., Virginia Commonwealth University; M.Ed., Virginia Commonwealth University; Ph.D., University of North Carolina at Charlotte

**Taylor, John R. (2006)**; *Lecturer, Department of Mathematics and Statistics;* B.S., North Carolina State University; M.S., North Carolina State University; Ph.D., University of North Carolina at Charlotte

**Taylor, Terrie K. (2021)**; *Lecturer, School of Social Work;* B.A., University of North Carolina at Chapel Hill; M.S.W., University of North Carolina at Charlotte

**Tempest, Brett Q. (2010)**; *Associate Dean for Academic Affairs, Department of Civil and Environmental Engineering;* B.A., University of North Carolina at Chapel Hill; B.S., University of North Carolina at Charlotte; M.S., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Teng, S. Gary (2000)**; *Professor, Department of Industrial and Systems Engineering;* B.E., Chung Yuan University, Taiwan; M.S.I.E., Texas Tech University; Ph.D., Auburn University

**Teng, S. Gary (2000)**; *Professor, Department of Industrial and Systems Engineering;* B.E., Chung Yuan University, Taiwan; M.S.I.E., Texas Tech University; Ph.D., Auburn University

**Terejanu, Gabriel (2018)**; *Professor, Department of Computer Science;* B.E., Craiova University, Romania; M.S., University at Buffalo; Ph.D., University at Buffalo

**Thaddeus, David J. (1999)**; *Professor, David R. Ravin School of Architecture;* B.E., American University of Beirut, Lebanon; M.Arch., University of Houston

**Thayer, Matthew (2024)**; *Lecturer, Department of Computer Science;* B.S., University of North Carolina at Charlotte; M.S., University of North Carolina at Charlotte

**Thiede, Ralf (1990)**; *Professor, Department of English;* M.A., University of Missouri; Ph.D., University of Missouri

**Thomas, Deborah (2018)**; *Department Chair and Professor, Department of Earth, Environmental, and Geographical Sciences;* B.A., University of Kansas; M.A., University of North Carolina; Ph.D., University of South Carolina

**Thomas, M. Lori (2008)**; *Associate Professor, School of Social Work;* B.A., Carson-Newman College; M.S.W., Virginia Commonwealth University; Ph.D., Virginia Commonwealth University

**Thomas, Marie H. (2014)**; *Clinical Assistant Professor, School of Nursing;* B.S.N., Vanderbilt University; M.S.N., University of North Carolina at Greensboro; Ph.D., University of North Carolina at Greensboro

**Thomas, Marye L. (2018)**; *Director, Research, Faculty Engagement and Institute for Social Capital, Urban Institute;* B.A., Carson-Newman College; M.Div., Baptist Theological Seminary - Richmond; M.S.W., Virginia Commonwealth University; Ph.D., Virginia Commonwealth University

**Thomas, Nikki L. (2015)**; *Assistant Professor, Archivist for Collection Management, Library Special Collections, J. Murrey Atkins Library;* B.A., University of South Carolina; M.S., University of Texas at Austin

**Thomas, Suzanne M. (2014)**; *Lecturer, Department of Writing, Rhetoric, and Digital Studies;* B.A., University of North Carolina at Charlotte; M.A., University of North Carolina at Charlotte

**Thomas Fenwick, Abbey C. (2014)**; *Professor, Department of Applied Physiology, Health, and Clinical Sciences;* B.S., Pennsylvania State University; M.Ed., University of Virginia; Ph.D. University of Michigan

**Thompson, Kaleb (45880)**; *Assistant Professor, Department of Counseling;* Ph.D., University of North Texas; M.A., University of Central Florida; B.S., University of Central Florida

**Thompson, Lydia (2018)**; *Professor, Department of Art and Art History;* B.F.A., Ohio State University; M.F.A., New York State College of Ceramics at Alfred University

**Thompson, Michael E. (2005)**; *Associate Professor; Interim Department Chair, Department of Health Management and Policy;* B.A., Johns Hopkins University; M.S., University of Maryland, Baltimore County; Dr.P.H., Johns Hopkins University

**Thorsett-Hill, Karen (2012)**; *Lecturer, Department of Mechanical Engineering and Engineering Science;* B.S.M.E., University of Memphis; M.B.A., California State University; M.S.M.E., University of North Carolina at Charlotte

**Thorsheim, Peter J. (2000)**; *Professor, Department of History;* B.A., Carleton College; M.A., University of Wisconsin-Madison; Ph.D., University of Wisconsin-Madison

**Tian, Weidong (2008)**; *Distinguished Scholar of Risk Management and Insurance; Department Chair and Professor, Department of Finance;* Ph.D., McGill University

**Tingelstad, Catherine (2018)**; *Assistant Professor and Instruction and Curriculum Engagement Coordinator, J. Murrey Atkins Library;* B.A., Duke University; M.H.A., Virginia Commonwealth University; M.L.S., North Carolina Central University

**Tipton, Roger (2024)**; *Research Associate Professor, Department of Mechanical Engineering and Engineering Science;* B.S.N., Ohio State University; M.S., University of South Florida; Ph.D., University of South Florida

**Tobias, John L. (2021)**; *Lecturer, School of Data Science;* B.S., University of North Carolina at Charlotte; M.S., High Point University

**Tokoro, Shoko (2007)**; *Associate Professor and Electronic and Continuing Resources Librarian, J. Murrey Atkins Library;* A.A., College of South Idaho; B.A., University of Hawaii, Hilo; M.A., University of Hawaii, Manoa; M.L.I.S., University of Hawaii, Manoa

**Tolone, William J. (1996)**; *Associate Provost and Dean of the Graduate School, Graduate School; Professor, Department of Software and Information Systems*; B.S., Millikin University; Ph.D., University of Illinois at Urbana-Champaign

**Tomida, Junya (2018)**; *Associate Professor, Department of Biological Sciences;* B.S., Osaka Prefecture University, Japan; M.S., Osaka Prefecture University, Japan; Ph.D., Kyoto University Radiation Biology Center, Japan

**Tonidandel, Scott (2018)**; *Professor, Department of Management;* B.A., Davidson College; M.A., Rice University; Ph.D., Rice University

**Toscano, Aaron A. (2006)**; *Professor, Department of English;* B.A., Virginia Polytechnic Institute and State University; M.S., Towson University; Ph.D., University of Louisville

**Townsend, Colette R. (2014)**; *Lecturer, School of Nursing; Director, Learning Resource Center*, B.S.N., West Suburban College of Nursing; M.S.N., University of North Carolina at Charlotte

**Trammell, Susan R. (1996)**; *Professor, Ishwar Aggarwal Department of Physics and Optical Science;* B.S., University of North Carolina at Chapel Hill; M.A., University of Texas at Austin; Ph.D., University of Texas at Austin

**Triplett, Nicholas P. (2020)**; *Clinical Assistant Professor, Department of Middle, Secondary, and K-12 Education;* B.A., University of North Carolina at Chapel Hill; M.A.T., University of North Carolina at Chapel Hill; Ph.D., University of North Carolina at Charlotte

**Trotter, Suzanne C. (44929)**; *School of Nursing Lecturer, School of Nursing;* B.S.N., Gardner-Webb University; M.S.N., Appalachian State University

**Troutman, Jerry M. (2010)**; *Professor, Department of Chemistry;* B.S., East Carolina University; Ph.D., University of Kentucky

**Troutman-Jordan, Meredith L. (2003)**; *Professor, School of Nursing;* B.S.N., Queens University of Charlotte; M.S.N., University of North Carolina at Charlotte; Ph.D., University of South Carolina

**Truesdale, Angel D. (2019)**; *Library Faculty President, J. Murrey Atkins Library;* B.A., University of North Carolina at Charlotte; M.L.I.S., San Jose State University

**Truman, Andrew (2015)**; *Professor, Department of Biological Sciences;* B.S., University of London; Ph.D., University of London

**Truong, Khai N. (2013)**; *Associate Professor, Department of Software and Information Systems;* B.S., Georgia Institute of Technology; Ph.D., Georgia Institute of Technology

**Tuma, Mary (1998)**; *Associate Professor, Department of Art and Art History;* B.S., University of California, Davis; M.F.A., University of Arizona

**Turi, Lorraine (44788)**; *Lecturer, Department of Art and Art History;* B.A., University of North Carolina at Charlotte; M.F.A., East Carolina University

**Turner, Michael G. (2002)**; *Department Chair and Professor, Department of Criminal Justice and Criminology;* B.S., Bowling Green State University; M.S., University of Cincinnati; Ph.D., University of Cincinnati

**Turner, Michael J. (1998)**; *Associate Professor, Department of Applied Physiology, Health, and Clinical Sciences;* B.S., Miami University; M.S., Miami University; Ph.D., University of Tennessee

**Turner, Tricia Hubbard (2005)**; *Professor, Department of Applied Physiology, Health, and Clinical Sciences;* B.S., University of Florida; M.S., University of Florida; Ph.D., Pennsylvania State University

**Tymvios, Nicholas (2013)**; *Assistant Professor, Department of Engineering Technology and Construction Management;* B.S., Purdue University; M.S., Purdue University; Ph.D., Oregon State University

**Udayanjani, Madhuri (2016)**; *Visiting Lecturer, Department of Mathematics and Statistics;* B.A., Acharya Nagarjuna University, India; M.S., Acharya Nagarjuna University, India; Ph.D., Oakland University

**Uddin, Mesbah (2008)**; *Professor, Department of Mechanical Engineering and Engineering Science;* B.S., Bangladesh University of Engineering and Technology; M.S., Bangladesh University of Engineering and Technology; Ph.D., University of Melbourne

**Underwood, Nathaniel (2023)**; *Assistant Professor, Department of Art and Art History;* B.F.A., Columbus College of Art and Design; M.F.A., University of North Carolina at Greensboro

**Van, Lori B. (1986)**; *Associate Professor, Department of Psychological Science;* B.A., MacMurray College; M.A., Northwestern University; Ph.D., Northwestern University

**van Oosten-Hawle, Patricija (2022)**; *Associate Professor, Department of Biological Sciences;* M.S., University of Vienna, Austria; Ph.D., Vrije Universiteit

**Vandervelde, Scott (2022)**; *Director and Professor, Turner School of Accountancy;* B.A., Hope College; Ph.D., University of Iowa

**Vermillion, Christopher R. (2014)**; *Assistant Professor, Department of Mechanical Engineering and Engineering Science;* B.S., University of Michigan; M.S., University of Michigan; Ph.D., University of Michigan

**Verrill, David E. (2011)**; *Lecturer, Department of Applied Physiology, Health, and Clinical Sciences;* B.S., University of Maine; M.S., University of South Carolina

**Vetter, Lara E. (2005)**; *Professor, Department of English;* B.A., Georgia State University; M.A., Georgia State University; Ph.D., University of Maryland

**Viana, Henrique (2013)**; *Lecturer, Department of Communication Studies;* B.A., East Carolina University; M.A., University of North Carolina at Charlotte

**Vieira, Marco (2023)**; *Professor, Department of Computer Science;* B.S., Polytechnic Institute of Coimbra; M.S., University of Coimbra; M.S., University of Coimbra; Ph.D., University of Coimbra

**Viglini, Nicole (45880)**; *Assistant Professor, Department of History;* Ph.D., University of California; M.A., San Jose State University; B.A., Smith College

**Vilguts, Aivars (45880)**; *Assistant Professor, Department of Civil and Environmental Engineering;* Ph.D., Norwegian University of Science and Technology; M.Eng., Rigas Technical University, Latvia; B.S., Rigas Technical University, Latvia

**Vinson, David S. (2014)**; *Associate Professor, Department of Earth, Environmental, and Geographical Sciences;* B.S., University of Alabama; M.S., University of New Mexico; Ph.D., Duke University

**Vintinner, Jean P. (2008)**; *Clinical Assistant Professor, Department of Reading and Elementary Education;* B.A., University of North Carolina at Charlotte; M.Ed., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Vivero-Escoto, Juan Luis (2012)**; *Professor, Department of Chemistry;* B.S., National Polytechnic Institute of Mexico; M.S., National Polytechnic Institute of Mexico; Ph.D., Iowa State University

**Vosters, Kelly N. (2016)**; *Associate Professor, Department of Economics;* B.A., University of Michigan; M.A., Johns Hopkins University; Ph.D., Michigan State University

**Vouzouni, Artemis (2020)**; *Lecturer, Business Information Systems and Operations Management;* B.S., University of Cyprus, Cyprus; M.S., University of Surrey, England

**Vrikkis, Regina M. (2015)**; *Teaching Assistant Professor, Department of Mechanical Engineering and Engineering Science;* B.S., University of North Carolina at Charlotte; M.S., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Wachtel, Katie A. (2015)**; *Assistant Professor, Department of Counseling;* B.A., Bowling Green State University; M.A., Bowling Green State University; Ph.D., University of North Carolina at Greensboro

**Wai, Sebastian (2024)**; *Clinical Assistant Professor, Department of Economics;* B.S., Carnegie Mellon University; M.S., Purdue University; Ph.D., Purdue University

**Walker, Lisa S. (1998)**; *Interim Dean, University College; Professor, Department of Sociology*; B.A., Florida State University; M.A., University of Arizona; Ph.D., University of Arizona

**Walker, Veronica N. (1991)**; *Associate Professor, Department of Africana Studies;* B.A., American University; M.S., American University; Ph.D., Howard University

**Walker, Virginia L. (2018)**; *Professor, Department of Special Education and Child Development;* B.S., Florida State University; M.S., Florida State University; Ph.D., University of Virginia

**Wall, Deborah M. (2005)**; *Lecturer, Department of Art and Art History;* B.F.A., University of North Carolina at Charlotte; M.A., Winthrop University

**Waller, Alexandra (2024)**; *Clinical Assistant Professor, David R. Ravin School of Architecture;* B.F.A., James Madison University; M.Arch., Washington University, St. Louis; S.M., Massachusetts Institute of Technology

**Walsh, Alison M. (2016)**; *Assistant Dean of Student Services, College of Humanities & Earth and Social Sciences;* B.A., Appalachian State University; M.L.I.S., University of North Carolina at Greensboro

**Walsh, James I. (1997)**; *Professor, Department of Political Science and Public Administration;* B.A., Trinity College; Ph.D., American University

**Walter, Michael G. (2011)**; *Professor, Department of Chemistry;* B.S., University of Dayton; M.S., Portland State University; Ph.D., Portland State University

**Wan Othman, Wan Rabiatul Adawiyah (2016)**; *Lecturer, Department of Mathematics and Statistics;* B.S., Indiana University Bloomington; M.S., University of North Carolina at Charlotte

**Wang, Guanchu (45880)**; *Assistant Professor, Department of Computer Science;* Ph.D., Rice University; M.S., University of Science and Technology, China; B.S., Dalian University of Technology

**Wang, Jinzhen (2024)**; *Assistant Professor, Department of Computer Science;* B.S., Shandong University, China; M.S., New Jersey Institute of Technology; Ph.D., New Jersey Institute of Technology

**Wang, Jun (2019)**; *Research Professor, Department of Bioinformatics and Genomics;* M.S., Chengdu University of Technology, China; Ph.D., Wuhan University, China

**Wang, Junqiu (45884)**; *Teaching Associate Professor, Office of Student Development and Success, The William States Lee College of Engineering;* Ph.D., Purdue University; M.S., Purdue University; M.S., Tsinghua University; B.S., University of Science and Technology, Beijing, China

**Wang, Ke (2022)**; *Assistant Professor, Department of Electrical and Computer Engineering;* B.S., Peking University, China; M.S., Worcester Polytechnic Institute; Ph.D., George Washington University

**Wang, Pu (2017)**; *Professor, Department of Computer Science;* B.Eng., Beijing Institute of Technology, China; M.Eng., Memorial University of Newfoundland, Canada; Ph.D., Georgia Institute of Technology

**Wang, Qingfang (2005)**; *Associate Professor, Department of Earth, Environmental, and Geographical Sciences;* B.S., Tianjin University of Finance and Economics; M.A., Central University of Finance and Economics; Ph.D., University of Georgia

**Wang, Weichao (2007)**; *Department Chair and Professor, Department of Software and Information Systems;* B.S., Tsinghua University, China; M.S., Tsinghua University, China; M.S., Purdue University; Ph.D., Purdue University

**Wang, Weimin (2016)**; *Assistant Professor, Department of Engineering Technology and Construction Management;* B.S., Shenyang Agricultural University; M.S., Tongji University; Ph.D., Concordia University

**Wang, Yongge (2002)**; *Professor, Department of Software and Information Systems;* B.S., Nankai University, China; M.S., Nankai University, China; Ph.D., Heidelberg University

**Wantland, Evan B. (2015)**; *Lecturer, Department of Mathematics and Statistics;* B.S., Auburn University; M.S., Auburn University; Ph.D., Auburn University

**Ward, Brenda J. (2005)**; *Lecturer, Department of Applied Physiology, Health, and Clinical Sciences;* B.A., Belmont Abbey College; M.S., State University of New York College at Cortland

**Warner, Jennifer M. (1999)**; *Lecturer, Department of Biological Sciences;* B.S., University of North Carolina at Chapel Hill; M.S., University of North Carolina at Charlotte

**Warren, Kimberly A. (2005)**; *Associate Professor, Department of Civil and Environmental Engineering;* B.S., Virginia Polytechnic Institute and State University; M.S., North Carolina State University; Ph.D., North Carolina State University

**Wartell, Zachary J. (2005)**; *Associate Professor, Department of Computer Science;* B.S., George Institute of Technology; Ph.D., George Institute of Technology

**Washburn, Erin K. (2019)**; *Professor, Department of Reading and Elementary Education;* B.S., Baylor University; M.Ed., Texas A&M University; Ph.D., Texas A&M University

**Washington, Brittani S. (2021)**; *Clinical Assistant Professor, Department of Business Information Systems and Operations Management;* B.S., Coastal Carolina University; M.S., Bowie State University; Ph.D., Towson University

**Waterkotte, Erik (2012)**; *Associate Professor, Department of Art and Art History;* B.F.A., Illinois State University; M.F.A., University of Alberta

**Watkins, Rachel (2013)**; *Lecturer, Performing Arts Services, College of Arts + Architecture;* B.F.A., University of North Carolina School of the Arts

**Watson, Jim R. (2009)**; *Clinical Associate Professor, Department of Educational Leadership;* B.S., Western Carolina University; M.A., Appalachian State University; Ed.D., University of North Carolina at Charlotte

**Watson, Johnna (1998)**; *Associate Dean for Graduate Enrollment Management and Funding, Graduate School;* B.A., University of North Carolina at Pembroke; M.A., University of North Carolina at Charlotte

**Watson, Sharon E. (2019)**; *Assistant Professor, Department of Anthropology;* B.A., University of Notre Dame; M.P.H., University of South Florida; Ph.D., University of South Florida

**Watts, Sandra L. (2005)**; *Lecturer, Department of Languages, Cultures, and Translation;* A.B., Cornell University; M.A., University of Michigan

**Wayland, Coral B. (1998)**; *Senior Associate Dean for Curriculum, Office of Undergraduate Education; Associate Professor, Department of Anthropology*, B.A., University of Florida; Ph.D., University of Pittsburgh

**Webb, Jennifer B. (2007)**; *Professor, Department of Psychological Science;* B.A., Harvard University; M.H.S., Duke University; M.A., University of Southern California; Ph.D., University of Southern California

**Webb, Justin W. (2014)**; *Professor, Department of Management;* B.S., Virginia Commonwealth University; M.B.A., University of Richmond; Ph.D., Texas A&M University

**Weeks, Gregory B. (2000)**; *Associate Dean for Academic Affairs, College of Humanities & Earth and Social Sciences; Professor, Department of Political Science and Public Administration*; A.B., University of California, Berkeley; M.A., San Diego State University; Ph.D., University of North Carolina at Chapel Hill

**Weggel, David (2002)**; *Professor, Department of Civil and Environmental Engineering;* B.S., Drexel University; M.S., Drexel University; Ph.D., University of Texas

**Wei, Jinpeng (2016)**; *Associate Professor, Department of Software and Information Systems;* B.S., Wuhan University, China; M.S., Wuhan University, China; Ph.D., Georgia Institute of Technology

**Wei, Qiuming (2005)**; *Professor, Department of Mechanical Engineering and Engineering Science;* B.S., Northwestern Polytechnic University; M.Erg., Northwestern Polytechnic University; Ph.D., North Carolina State University

**Weiland, Travis (2024)**; *Assistant Professor, Department of Mathematics and Statistics;* B.A., Warren Wilson College; M.A., Western Carolina University; M.S., University of Massachusetts at Dartmouth; Ph.D., University of Massachusetts at Dartmouth

**Weiter, Steve (2023)**; *Dean, J. Murrey Atkins Library;* B.A., University of Louisville; M.A., Syracuse University; M.L.S., Syracuse University

**Wellington, Roxanne (45880)**; *Associate Professor of Voice, Speech and Acting, Department of Theatre;* M.F.A., Wayne State University; B.F.A., Wright State University

**Wells, Carrie N. (2014)**; *Lecturer, Department of Biological Sciences;* B.S., Appalachian State University; M.S., Appalachian State University; Ph.D., Clemson University

**Werbeck, Kai-Uwe (2013)**; *Associate Professor, Department of Languages, Cultures, and Translation;* B.A., Ruhr-University Bochum, Germany; M.A., Ruhr-University Bochum, Germany; M.A., University of North Carolina at Chapel Hill; Ph.D., University of North Carolina at Chapel Hill

**West, Mark I. (1984)**; *Interim Department Chair and Professor, Department of English;* B.A., Franconia College; M.E.A.S., University of Wisconsin-Green Bay; Ph.D., Bowling Green State University

**Westine, Carl (2017)**; *Associate Professor, Department of Educational Leadership;* B.S., Bradley University; M.S., Carnegie Mellon University; Ph.D., Western Michigan University

**Whaley, Adam M. (2018)**; *Teaching Assistant Professor, Department of Bioinformatics and Genomics;* B.S., East Carolina University; M.S., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Whelan, Matthew (2010)**; *Associate Professor, Department of Civil and Environmental Engineering;* B.S., Clarkson University; M.S., Clarkson University; Ph.D., Clarkson University

**Whitaker, Beth (2002)**; *Associate Dean for Research and Interdisciplinary Collaboration, Office of Interdisciplinary Studies; Professor, Department of Political Science and Public Administration*; B.A., Princeton University; M.A., University of North Carolina at Chapel Hill; Ph.D., University of North Carolina at Chapel Hill

**Whitaker, Jennifer A. (2008)**; *Professor, Department of Music;* B.M., George Mason University; M.M., Louisiana State University; Ph.D., Louisiana State University

**Whitaker, Nicole A. (44929)**; *Lecturer/ Athletic Trainer, Department of Applied Physiology, Health, and Clinical Sciences;* B.S., University of North Carolina at Charlotte; M.S., West Chester University

**Whitaker-Brown, Charlene D. (2013)**; *Clinical Assistant Professor, School of Nursing;* B.S., East Carolina University.; B.S.N., Winston-Salem State University; M.S.N., Indiana State University; D.N.P., Indiana State University

**White, Richard A. (2020)**; *Associate Professor, Department of Bioinformatics and Genomics;* B.S., California State University, East Bay; M.S., California State University, East Bay; Ph.D., University of British Columbia, Canada

**Whitney, Michael (45880)**; *Lecturer, Department of Chemistry;* M.S., Cleveland State University; B.S., University of Akron

**Wiggan, Greg A. (2006)**; *Professor, Department of Middle, Secondary, and K-12 Education;* B.S., Morris Brown College; M.S., Florida International University; Ph.D., Georgia State University

**Wilde, Scott A. (2020)**; *Lecturer, Department of Mathematics and Statistics;* B.A.Ed., Eastern Washington University; M.S., Washington State University; Ph.D., Washington State University

**Williams, Ashlyn C. (2011)**; *Lecturer, Department of English;* B.A., Western Carolina University; M.A., University of North Carolina at Charlotte

**Williams, Damien (44788)**; *Associate Professor, Department of Philosophy;* B.A., Georgia State University; M.A., Georgia State University; Ph.D., Virginia Tech University

**Williams, Tamara L. (2016)**; *Associate Professor, Department of Dance;* B.F.A., Florida State University; M.F.A., Hollins University

**Williams, Wesley B. (2011)**; *Professor, Department of Engineering Technology and Construction Management;* B.S., North Carolina State University; M.S., Georgia Institute of Technology; Ph.D., University of North Carolina at Charlotte

**Willis, Andrew R. (2005)**; *Associate Professor, Department of Electrical and Computer Engineering;* B.S., Worcester Polytechnic Institute; M.S., Brown University; Ph.D., Brown University

**Wilsey, Corrine N. (2019)**; *Lecturer, Department of Epidemiology and Community Health;* B.S., Stockton University; M.A., Stockton University; M.Ed., Widener University

**Wilson, Dale-Marie C. (2006)**; *Assistant Professor, Department of Computer Science;* B.S., New York University; M.S., Auburn University; Ph.D., Auburn University

**Wilson, David C. (2003)**; *Professor, Department of Software and Information Systems;* B.A., Rockford College; M.S., Indiana University at Bloomington; Ph.D., Indiana University at Bloomington

**Wilson, Mark R. (2004)**; *Professor, Department of History;* A.B., Harvard University; A.M., The University of Chicago; Ph.D., The University of Chicago

**Windett, Jason (2017)**; *Professor, Department of Political Science and Public Administration;* B.A., Catawba College; M.A., Appalachian State University; Ph.D., University of North Carolina at Chapel Hill

**Wisner, Ellen M. (2016)**; *Lecturer, Department of Biological Sciences;* B.S., Centre College; Ph.D., Syracuse University

**Witt, Robin (2010)**; *Professor, Department of Theatre;* B.F.A., New York University; M.F.A., Northwestern University

**Woehr, David J. (2011)**; *Department Chair and Professor, Department of Management;* B.A., Trinity University; M.S., Georgia Institute of Technology; Ph.D., Georgia Institute of Technology

**Wolek, Artur (2020)**; *Assistant Professor, Department of Mechanical Engineering and Engineering Science;* B.S., Virginia Polytechnic Institute and State University; Ph.D., Virginia Polytechnic Institute and State University

**Womack, Kiplan S. (2014)**; *Associate Professor, Department of Finance;* B.S., Auburn University; M.B.A., University of Alabama; Ph.D., University of Georgia

**Wood, Bret A. (2000)**; *Lecturer, Department of Applied Physiology, Health, and Clinical Sciences;* B.S., West Virginia University; M.Ed., University of North Carolina at Charlotte

**Wood, Charles L. (2005)**; *Department Chair and Professor, Department of Special Education and Child Development;* B.S., Western Michigan University; M.Ed., Ohio State University; Ph.D., Ohio State University

**Woods, Brittany L. (2020)**; *Lecturer, Department of Chemistry;* B.S., Morehead State University; Ph.D., Montana State University

**Woods, Stephanie J. (2013)**; *Professor, School of Nursing;* B.S.N., Edinboro State College; M.S.N., Edinboro University of Pennsylvania; Ph.D., Wayne State University

**Wray, Albert (2012)**; *Lecturer, Department of Writing, Rhetoric, and Digital Studies;* B.A., Appalachian State University; M.A., University of North Carolina at Charlotte

**Wright, Daniel D. (2018)**; *Lecturer, Department of Finance;* B.S., University of Utah; M.B.A., Brigham Young University; M.P.S., Cornell University

**Wright, Shirley (2024)**; *Senior ELTI Lecturer, Department of Languages, Cultures, and Translation;* B.A., University of Georgia; M.Ed., University of Georgia; Ph.D., University of Texas at Arlington

**Wu, Jy S. (1980)**; *Professor, Department of Civil and Environmental Engineering;* B.S., National Taiwan University, Taiwan; M.S., Asian Institute of Technology, Thailand; Ph.D., Rutgers University

**Wu, Somaly Kim (2009)**; *Associate Professor and Head of Library Technology Innovation, J. Murrey Atkins Library;* B.A., Michigan State University; M.L.I.S., Wayne State University

**Xiang, Jian (2023)**; *Assistant Professor, Department of Software and Information Systems;* B.S., Huazhong University of Science and Technology; M.E., Tsinghua University; Ph.D., University of Virginia

**Xiang, Tingting (2019)**; *Assistant Professor, Department of Biological Sciences;* B.S., China Agricultural University, China; Ph.D., China Agricultural University

**Xie, Jiang (Linda) (2004)**; *Professor, Department of Electrical and Computer Engineering;* B.S., Tsinghua University, China; M. Phil, Hong Kong University of Science and Technology; M.S.; M.S., Georgia Institute of Technology; Ph.D., Georgia Institute of Technology

**Xie, Yunchao (45880)**; *Assistant Professor, Department of Engineering Technology and Construction Management;* Ph.D., University of Missouri; M.S., University of Shanghai for Science and Technology, China; B.S., Qingdao Agricultural University, China

**Xu, Depeng (44788)**; *Professor, Department of Software and Information Systems;* B.Eng., Tsinghua University, China; M.S., University of Arkansas at Fayetteville; Ph.D., University of Arkansas at Fayetteville

**Xu, Terry T. (2004)**; *Professor, Department of Mechanical Engineering and Engineering Science;* B.S., Shanghai University, China; M. Phil, Hong Kong University of Science and Technology; Ph.D., Northwestern University

**Xue, Hongfei (2023)**; *Assistant Professor, Department of Computer Science;* B.S., University of Science and Technology; Ph.D., State University of New York at Buffalo

**Yamamoto, Alan (2023)**; *Visiting Lecturer, Department of Music;* B.A., University of California at Berkeley; M.M., University of Michigan; D.M.A., University of Colorado at Boulder

**Yan, Shan (2010)**; *Professor, Department of Biological Sciences;* B.S., Shandong University, China; M.S., Shandong University, China; Ph.D., Fudan University, China

**Yan, Yonghong (2019)**; *Associate Professor, Department of Computer Science;* B.S., Shandong University of Technology, China; M.S., University of Shanghai for Science and Technology, China; Ph.D., University of Houston

**Yang, In Hong (2019)**; *Associate Professor, Department of Mechanical Engineering and Engineering Science;* B.S., Kyung Hee University, South Korea; M.S., Kyung Hee University, South Korea; Ph.D., Texas A&M University

**Yang, Jing (2005)**; *Professor, Department of Computer Science;* B.A., Tsinghua University, China; M.S., Worcester Polytechnic Institute; Ph.D., Worcester Polytechnic Institute

**Yang, Li (2023)**; *Assistant Professor, Department of Computer Science;* B.S., Northeastern University, China; M.Eng., University of Central Florida; Ph.D., Arizona State University

**Yang, Wenhao (2023)**; *Assistant Professor of Finance, Department of Finance;* B.S., Xiamen University; M.S., University of Utah; Ph.D., University of Utah

**Yao, Lixia (2013)**; *Assistant Professor, Department of Software and Information Systems;* M.S., National University of Singapore; M.A., Columbia University; Ph.D., Columbia University

**Yarmand, Matin (45880)**; *Assistant Professor, Department of Software and Information Systems;* Ph.D., University of California, San Diego

**Yavorsky, Jill (2017)**; *Associate Professor, Department of Sociology;* B.S.B.A., Ohio State University; M.A., Ohio State University; Ph.D., Ohio State University

**Yohe, Laurel R. (2021)**; *Assistant Professor, Bioinformatics and Genomics;* B.S., Loyola University Chicago; Ph.D., Stony Brook University

**Yokono, Yukiko (2013)**; *Lecturer, Department of Languages, Cultures, and Translation;* B.A., Kanda University of International Studies, Japan; M.A., Akita International University, Japan

**Young, Lufei (44788)**; *Professor, School of Nursing;* M.D., Xi'an Medical University, China; B.S.N., University of Nebraska; M.S.N., University of Nebraska; Ph.D., University of Nebraska

**Yu, Miaomiao (45516)**; *Assistant Professor of Finance, Department of Finance;* B.A., Nankai University, China; M.A., Nankai University, China; M.Sc., University of Nebraska; Ph.D., University of Iowa

**Zablotsky, Diane L. (1992)**; *Faculty Director, Levine Scholars Program; Associate Professor, Department of Sociology*; B.S., Pennsylvania State University; M.A., State University of New York at Binghamton; Ph.D., University of Maryland

**Zarwell, Meagan C. (2019)**; *Associate Professor, Department of Epidemiology and Community Health;* B.A., University of South Carolina; M.A., University of Memphis; Ph.D., Louisiana State University Medical Center New Orleans

**Zenarosa, Gabriel L. (2016)**; *Assistant Professor, Department of Industrial and Systems Engineering;* B.S., University of the Philippines; M.S., Columbia University; M.S., Carnegie Mellon University; Ph.D., University of Pittsburgh

**Zeng, Ke (2024)**; *Assistant Professor, Department of Electrical and Computer Engineering;* B.E., University of Zhejiang; M.S., State University of New York at Buffalo; Ph.D., State University of New York at Buffalo

**Zhang, Dan (2017)**; *Assistant Professor, David R. Ravin School of Architecture;* B.Arch., Tsinghua University, China; M.Arch., Washington University in St. Louis; M.Des., Harvard University

**Zhang, Dongsong (2018)**; *Belk Distinguished Professor of Business Analytics; Department Chair and Professor, Department of Business Information Systems and Operations Management;* B.S., Peking University, China; M.S., Chinese Academy of Sciences, China; Ph.D., University of Arizona

**Zhang, HaiTao (2008)**; *Associate Professor, Department of Mechanical Engineering and Engineering Science;* B.S., Fudan University, China; M.S., Fudan University, China; Ph.D., Northwestern University

**Zhang, Ran (2023)**; *Assistant Professor, Department of Electrical and Computer Engineering;* B.E., Tsinghua University; Ph.D., University at Waterlook

**Zhang, Sijia (44788)**; *Assistant Professor, Department of Educational Leadership;* B.A., Hunan Normal University, China; M.A., Hunan Normal University, China; Ph.D., University of Alabama

**Zhang, Xiang (2022)**; *Assistant Professor, Department of Computer Science;* M.S., Harbin Institute of Technology, India; Ph.D., University of New South Wales, Australia

**Zhang, Yong (2009)**; *Bissell Distinguished Professor, Department of Electrical and Computer Engineering;* B.S., Massachusetts Institute of Technology; Ph.D., Cornell University

**Zhang, Zhi Yi (1990)**; *Professor, Department of Mathematics and Statistics;* B.A., Hunter College; M.S., Rutgers University; Ph.D., Rutgers University

**Zhao, Kexin (2007)**; *Professor, Department of Business Information Systems and Operations Management;* B.A., Tsinghua University, China; Ph.D., University of Illinois at Urbana-Champaign

**Zhao, Nan (45880)**; *Assistant Professor, Department of Mechanical Engineering and Engineering Science;* Ph.D., Pennsylvania State University; M.S., North Carolina Agricultural and Technical State University; B.S., A&F University, China

**Zhao, Tiefu (2016)**; *Professor, Department of Electrical and Computer Engineering;* B.S., Tsinghua University, China; M.S., Tsinghua University, China; Ph.D., North Carolina State University

**Zhao, Wei (2004)**; *Professor, Department of Sociology;* B.A., Beijing University, China; M.A., Beijing University, China; Ph.D., Duke University

**Zhao, Xuejun (2023)**; *Assistant Professor, Department of Business Information Systems and Operations;* B.E., Xi'an Jiatong University; M.S., Purdue University; Ph.D., Purdue University

**Zheng, Naiquan N. (2008)**; *Professor, Department of Mechanical Engineering and Engineering Science;* Bachelor's, Zhejiang University, China; M.S., Shanghi Second Medical University; M.S., University of Saskatchewan; Ph.D., University of Saskatchewan

**Zheng, Yuliang (2001)**; *Professor, Department of Software and Information Systems;* B.Sc., Nanjing Institute of Technology, China; M.E., Yokohama National University, Japan; Ph.D., Yokohama National University, Japan

**Zhou, Aixi (2007)**; *Professor, Department of Engineering Technology and Construction Management;* B.S., Shenyang Institute of Aeronautical Engineering, China; M.S., Lanzhou University of Technology, China; Ph.D., Virginia Polytechnic Institute

**Zhou, Lina (2018)**; *Professor, Department of Business Information Systems and Operations Management;* B.S., Shanxi University, China; M.S., Shanxi University, China; M.S., University of Arizona; Ph.D., Peking University, China

**Zhou, Qingning (2017)**; *Associate Professor, Department of Mathematics and Statistics;* B.S., Jilin University, China; M.A., University of Missouri; Ph.D., University of Missouri

**Zhou, Ru (2018)**; *Research Associate Professor, Department of Biological Sciences;* B.S., East China Normal University, China; Ph.D., Chinese Academy of Sciences, China; Ph.D., Shanghai Institute of Materia Medica, China

**Zhou, Weihua (2005)**; *Associate Professor, Department of Mathematics and Statistics;* B.S., University of Science and Technology of China, China; M.S., University of Science and Technology of China, China; M.S., University of Texas at Dallas; Ph.D., University of Texas at Dallas

**Zhou, You (2024)**; *Assistant Professor, Ishwar Aggarwal Department of Physics and Optical Science;* B.S., Sun Yat-sen University; Ph.D., Vanderbilt University

**Zhu, Lei (2020)**; *Associate Professor, Department of Industrial and Systems Engineering;* B.S., Dalian Ocean University, China; M.S., University of Science and Technology of China, China; Ph.D., University of Arizona

**Zhu, Qiang (2023)**; *Assistant Professor, Department of Mechanical Engineering and Engineering Science;* B.E., Beihang University; Ph.D., State University of New York at Stony Brook

**Zillante, Arthur L. (2006)**; *Senior Associate Dean, Department of Economics;* B.S., Florida State University; M.S., Florida State University; Ph.D., Florida State University

**Zuber, Pilar (2012)**; *Lecturer, Department of Epidemiology and Community Health;* B.S., Towson University; M.S., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Zuk, Emma (2023)**; *Clinical Assistant Professor, Department of Applied Physiology, Health and Clinical Sciences;* B.S., High Point University; M.S., University of Connecticut; Ph.D., University of Connecticut

**Zuniga, Michelle (2021)**; *Assistant Professor, Department of Earth, Environmental, and Geographical Sciences;* B.A., University of Tampa; MURP, University of Colorado at Denver; Ph.D., University of California, Irvine

# Emeritus Faculty

***(Note: The year in parentheses represents the year of appointment)***

Emeritus status is an honor and a mark of distinction granted to fully retired faculty members and senior administrative or academic officers whose service is characterized by high personal achievement and outstanding service to UNC Charlotte. Emeritus faculty members are granted several privileges, among them use of the University library and recreational facilities; a University email account; inclusion in the University catalog and campus directory; invitations to University Commencement and other events; opportunity to purchase tickets for University athletic and cultural events at faculty rates; receipt of University and alumni publications; and free campus parking.

**Abel, Willie M. (2013)**; *Associate Professor Emerita, School of Nursing;* B.S.N., University of North Carolina at Charlotte; M.S.N., University of North Carolina at Greensboro; Ph.D., University of North Carolina at Greensboro

**Adams, Lewis (2013)**; *Senior Associate Dean Emeritus, Performing Arts Services;* M.F.A., Florida State University

**Ahlgrim-Delzell, Lynn A. (2008)**; *Associate Professor Emeritus, Department of Educational Leadership;* B.S., Illinois State University; M.S., Illinois State University; Ph.D., University of North Carolina at Greensboro

**Algozzine, Robert F. (1988)**; *Professor Emeritus, Department of Educational Leadership;* B.S., Wagner College; M.S., State University of New York at Albany; Ph.D., Pennsylvania State University

**Allen, Angela (2001)**; *Professor Emerita, Ishwar Aggarwal Department of Physics and Optical Science;* Ph.D., Cornell University

**Allen, C. Michael (1974)**; *Professor Emeritus, Department of Computer Science;* B.S.E.E., Carnegie Mellon Institute; M.S.E.E., Carnegie Mellon Institute; Ph.D., State University of New York at Buffalo

**Amante, David J. (1974)**; *Associate Professor Emeritus, Department of English;* A.B., University of Michigan; M.A., University of Michigan; Ph.D., University of Michigan

**Amato, Christie H. (1978)**; *Professor Emerita, Department of Marketing;* B.S., University of Tennessee; M.S., University of Alabama; Ph.D., University of Alabama

**Amato, Louis (Ted) H. (1980)**; *Professor Emeritus, Department of Economics;* A.B., Lenoir-Rhyne College; M.A., University of North Carolina at Greensboro; Ph.D., University of South Carolina

**Anderson, Eric (1967)**; *Professor Emeritus, Department of Art;* B.F.A., Miami University; M.F.A., Pratt Institute

**Arrington, Theodore S. (1973)**; *Professor Emeritus, Department of Political Science;* B.A., University of New Mexico; M.A., University of Arizona; Ph.D., University of Arizona

**Ashbaugh, Carl R. (1991)**; *Professor Emeritus, Department of Educational Administration, Research, and Technology;* A.A., Graceland College; B.S., Ohio University; M.Ed., Miami University; Ph.D., Ohio State University

**Auerbach, Bruce (2002)**; *Professor Emeritus, Department of Theatre;* B.A., Auburn University; M.F.A., University of Illinois at Urbana-Champaign

**Aulette, Judy R. (1986)**; *Associate Professor Emerita, Department of Sociology;* B.A., Wayne State University; M.A., Wayne State University; Ph.D., Michigan State University

**Baldwin, Defloris (Dee) M. (2009)**; *Professor Emerita, School of Nursing;* B.S.N., Hampton Institute; M.S.N., Emory University; Ph.D., Georgia State University

**Barden, Lawrence S. (1974)**; *Professor Emeritus, Department of Biological Sciences;* B.S., Hendrix College; M.S., University of Maine; Ph.D., University of Tennessee

**Barret, Robert L. (1979)**; *Professor Emeritus, Department of Counseling;* B.A., Rhodes College; M.A.T., Vanderbilt University; M.Ed., University of North Carolina at Charlotte; Ph.D., Georgia State University

**Barry, Ambrose G. (1986)**; *Associate Professor Emeritus, Department of Engineering Technology;* B.S., Arizona State University; M.S., Auburn University

**Bayer II, David M. (1970)**; *Professor Emeritus, Department of Civil and Environmental Engineering;* B.C.E., Georgia Institute of Technology; M.S.C.E., Vanderbilt University; Ph.D., Vanderbilt University; P.E.,

**Beasley, Jack M. (1972)**; *Associate Professor Emeritus, Department of Theatre;* B.A., Vanderbilt University; M.F.A., University of Georgia

**Beattie Jr., John R. (1983)**; *Assistant Professor Emeritus, Department of Special Education and Child Development;* B.A., University of Virginia; M.Ed., University of Virginia; Ph.D., University of Florida

**Beggs, Joyce M. (1989)**; *Associate Professor Emerita, Department of Management;* B.S., Concord College; M.A., Marshall University; M.B.A., West Virginia College of Graduate Studies; Ph.D., University of Tennessee

**Bender, John F. (1982)**; *Professor Emeritus, Department of Earth, Environmental, and Geographical Sciencess;* B.S., State University of New York at New Paltz; M.S., Pennsylvania State University; Ph.D., State University of New York at Stony Brook

**Berne, Linda S. (1978)**; *Professor Emerita, Department of Epidemiology and Community Health;* B.S., Mars Hill College; M.A.T., University of South Carolina; Ed.D., University of South Carolina

**Bhamornsiri, Surasakdi (1978)**; *Professor Emeritus, Turner School of Accountancy;* B.S., Middle Tennessee State University; M.B.A., Middle Tennessee State University; D.B.A., University of Tennessee; C.P.A.,

**Bird, James J. (2006)**; *Associate Professor Emeritus, Department of Educational Leadership;* B.S., University of Wisconsin at LaCrosse; M.A., Ohio State University; Ph.D., Ohio State University

**Bishop, Sue M. (1992)**; *Dean Emerita, College of Health and Human Services; Professor Emerita, School of Nursing*; B.S.N., Murray State University; M.S.N., Indiana University; Ph.D., Indiana University

**Bissière, Michèle (1990)**; *Department Chair and Professor Emerita, Department of Languages, Cultures, and Translation;* M.A., University of Wisconsin at Madison; Ph.D., University of Wisconsin at Madison

**Blair, Peter A. (2006)**; *Lecturer Emeritus, Department of Writing, Rhetoric, and Digital Studies;* B.A., Saint Vincent College; M.A., Duquesne University; Ph.D., University of Iowa

**Blat, Catherine (2005)**; *Assistant Dean Emerita for Student Experiences and Inclusive Excellence, The William States Lee College of Engineering;* B.S.E.E., University of North Carolina at Charlotte; M.S.E, University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Blowers, Anita N. (1989)**; *Associate Professor Emerita, Department of Criminal Justice and Criminology;* B.A., State University of New York at Albany; M.A., State University of New York at Albany; Ph.D., State University of New York at Albany

**Bodkin, Charles D. (1991)**; *Professor Emeritus, Department of Marketing;* B.B.A., University of Notre Dame; M.B.A., University of North Carolina at Greensboro; Ph.D., Virginia Polytechnic Institute and State University

**Boggs, Kathleen Underman (1984)**; *Associate Professor Emerita, School of Nursing;* B.S.N., Niagara University; M.S.N., University of Maryland; Ph.D., University of Maryland

**Bonney, Rachel Ann (1973)**; *Associate Professor Emerita, Department of Anthropology;* B.A., University of Minnesota; M.A., University of Minnesota; Ph.D., University of Arizona

**Bosley, Deborah S. (1989)**; *Associate Professor Emerita, Department of English;* B.A., University of Illinois; M.A., University of Illinois; Ph.D., Illinois State University

**Brabham Jr., Robert F. (1969)**; *Associate University Librarian for Special Collections and Professor Emeritus, Atkins Library;* B.A., Furman University; M.A., University of North Carolina at Chapel Hill; M.Ln., Emory University

**Brandon, William P. (1994)**; *Distinguished Professor Emeritus, Department of Political Science and Public Administration;* B.A., Johns Hopkins University; M.Sc., University of London; M.P.H., University of North Carolina at Chapel Hill; Ph.D., Duke University

**Brannon, Lilian B. (1998)**; *Professor Emerita, Department of English;* B.A., Converse College; M.A., Sam Houston State University; Ed.D., Texas A&M University

**Brenner, Saul (1965)**; *Professor Emeritus, Department of Political Science and Public Administration;* B.A., Brooklyn College; L.L.B., Columbia University; M.A., Brooklyn College; Ph.D., New York University

**Brenner, Susan C. (1991)**; *Associate Professor Emerita, Department of Art and Art History;* B.F.A., San Francisco Art Institute; M.F.A., University of Southern California

**Brentrup, Dale A. (1989)**; *Professor Emeritus, School of Architecture;* B.Arch., Arizona State University; M.Arch., University of California, Berkeley

**Bringle, Edwina (1973)**; *Associate Professor Emerita, Department of Art*

**Brockman, Diane K. (2004)**; *Associate Professor Emerita, Department of Anthropology;* M.A., San Diego State University; M.A., Yale University; Ph.D., Yale University

**Brody, Charles J. (2001)**; *Associate Dean for Academic Affairs Emeritus, College of Humanities & Earth and Social Sciences; and Professor Emeritus;* Department of Sociology; B.A., Loyola University of the South; M.A., University of New Orleans; Ph.D., University of Arizona

**Browder, Diane (1998)**; *Distinguished Professor Emerita, Department of Special Education and Child Development; B.A., Duke University*; M.Ed., University of Virginia; Ph.D., University of Virginia

**Brown, Mary M. (2007)**; *Professor Emerita, Department of Political Science and Public Administration;* B.S., University of Maryland; M.P.A., University of Oklahoma; D.P.A., The University of Georgia

**Brunner Huber, Larissa R. (2005)**; *Professor Emerita, Department of Epidemiology and Community Health;* B.A., Syracuse University; M.S., University of Massachusetts; Ph.D., Emory University

**Bryska, Nishi S. (1996)**; *Lecturer Emerita, Department of Biological Sciences;* B.S., Western Michigan University; M.A., Western Michigan University

**Burnap, Charles A. (1982)**; *Associate Professor Emeritus, Department of Mathematics and Statistics;* B.S., Rensselaer Polytechnic Institute; A.M., Harvard University; Ph.D., Harvard University

**Bush, Stewart Fowler (1969)**; *Professor Emeritus, Department of Chemistry;* A.B., Erskine College; Ph.D., University of South Carolina

**Buttimer, Richard J. (2002)**; *Dean and Professsor Emeritus, Department of Finance;* B.B.A., University of Georgia; Ph.D., University of Georgia

**Byars, Nan A. (1993)**; *Professor Emerita, Department of Engineering Technology and Construction Management;* B.S., Clemson University; M.S., West Virginia University

**Caddell, Elinor Brooks (1965)**; *Distinguished Professor Emerita, School of Nursing;* B.S.N.E., Duke University; M.S.N., Duke University; R.N.,

**Calhoun, Mary Lynne (1982)**; *Dean Emerita, College of Education; Professor Emerita, Department of Special Education and Child Development*; A.B., Randolph-Macon Woman's College; M.Ed., University of Georgia; Ph.D., University of Georgia

**Calhoun Jr., Lawrence G. (1973)**; *Professor Emeritus, Department of Psychology;* B.A., St. Andrews Presbyterian College; M.A., Xavier University; Ph.D., University of Georgia

**Campbell, Malcolm W. (2011)**; *Lecturer Emeritus, Department of Writing, Rhetoric, and Digital Studies;* B.A., University of North Carolina at Chapel Hill; M.F.A., Vermont College of Fine Arts

**Cann Jr., Arnold A. (1975)**; *Professor Emeritus, Department of Psychology;* B.A., Northeastern University; Ph.D., Indiana University

**Carlson-Reddig, Kelly J. (1992)**; *Associate Director and Associate Professor Emerita, David R. Ravin School of Architecture;* B.Arch., Texas Tech University; M.E.Des, Yale University

**Carney, Melinda (2016)**; *Professor Emerita, College of Health and Human Services;* Ph.D., University of Michigan - Ann Arbor

**Carpano, Claudio (1990)**; *Associate Professor Emeritus, Department of Management;* D.P., State University of Rome; M.B.A., Southeastern Louisiana University; Ph.D., University of South Carolina

**Carper, Barbara (1989)**; *Professor Emerita, School of Nursing;* B.S., Texas Woman's University; M.Ed., Columbia University; Ed.D., Columbia University

**Carroll, Jane Judy (1995)**; *Associate Professor Emerita, Department of Counseling, Special Education, and Child Development;* B.S., University of Maine; M.S., Florida Institute of Technology; Ed.S., University of Florida; M.Ed., University of Florida; Ph.D., University of Florida

**Carver, Ann Cathey (1969)**; *Professor Emerita, Department of English;* B.A., Limestone College; M.A., University of Arkansas; Ph.D., Emory University

**Casperson, Lee (2004)**; *Professor Emeritus, Department of Electrical and Computer Engineering;* B.S., Massachusetts Institute of Technology; B.S., California Institute of Technology; Ph.D., California Institute of Technology

**Chaffin, John H. (1989)**; *Associate Professor Emeritus, Department of Engineering Technology;* B.A., University of Virginia; M.S., University of North Carolina at Chapel Hill; Ph.D., University of North Carolina at Chapel Hill

**Chen, Keh-Hsun (Ken) (1978)**; *Professor Emeritus, Department of Computer Science;* B.S., Taiwan Cheng-Kung University; M.S., National Tsing Hua University; Ph.D., Duke University

**Cifarelli, Victor V. (1995)**; *Professor Emeritus, Department of Mathematics and Statistics;* B.S., University of Connecticut; M.S., Purdue University; Ph.D., Purdue University

**Coleman, Robert J. (1970)**; *Professor Emeritus, Department of Electrical and Computer Engineering;* B.S.E.E., Auburn University; M.S., Auburn University; Ph.D., Auburn University

**Collins, Belva J. (2014)**; *Professor Emerita, Department of Child Development and Special Education;* B.A., University of Kentucky; M.Ed., University of Virginia; Ed.D., University of Kentucky

**Combs, Cynthia C. (1989)**; *Distinguished Professor Emerita; Professor Emerita, Department of Political Science and Public Administration*; B.A., Appalachian State University; M.A., Appalachian State University; Ph.D., George Washington University

**Conboy, Richard M. (1970)**; *Associate Professor Emeritus, Department of Management;* B.S.B.A., Old Dominion University; M.B.A., Virginia Polytechnic Institute and State University; Ph.D., Virginia Polytechnic Institute and State University

**Connaughton, John E. (1978)**; *Professor Emeritus, Department of Economics;* B.A., Boston State College; M.A., Northeastern University; Ph.D., Northeastern University

**Conner, Lynne (2016)**; *Department Chair and Professor, Department of Theatre;* B.A., Oberlin College; M.A., State University of New York at Stony Brook; Ph.D., University of Pittsburgh

**Conrad, Robert B. (1970)**; *Professor Emeritus, Department of Business Information Systems and Operations Management;* B.S., University of North Carolina at Chapel Hill; Ph.D., University of North Carolina at Chapel Hill

**Cooke, Nancy L. (1984)**; *Associate Professor Emerita, Department of Special Education and Child Development;* B.S., Ohio State University; M.A., Ohio State University; Ph.D., Ohio State University

**Cooper, W. Douglas (1985)**; *Professor Emeritus, Department of Business Information Systems and Operations Management;* B.S., North Carolina State University; M.S., North Carolina State University; Ph.D., North Carolina State University

**Corbus, Belinda (Lili) (1993)**; *Associate Professor Emerita, Department of Art;* B.A., Kenyon College; M.A., University of Maryland; Ph.D., University of Texas at Austin

**Correa, Vivian I. (2011)**; *Professor Emerita, Department of Special Education and Child Development;* B.S., Georgia State University; M.Ed., University of Georgia; Ph.D., George Peabody College for Teachers

**Coria-Sanchez, Carlos M. (2001)**; *Professor Emeritus, Department of Languages, Cultures, and Translation;* B.A., Georgia State University; M.A., University of Georgia; Ph.D., University of Georgia

**Corwin, Thomas M. (1974)**; *Professor Emeritus, Ishwar Aggarwal Department of Physics and Optical Science;* B.S., Tulane University; M.S., Johns Hopkins University; Ph.D., Georgia Institute of Technology

**Cowan-Hathcock, Misty (1998)**; *Director Emerita, Teaching Fellows Program; Clinical Assistant Professor, Cato College of Education*; B.A., University of North Carolina at Charlotte; M.Ed., University of North Carolina at Charlotte

**Cox, Karen L. (2002)**; *Professor Emerita, Department of History;* B.A., University of North Carolina at Greensboro; M.A., University of North Carolina at Greensboro; Ph.D., University of Mississippi

**Croghan, Robert T. (1974)**; *Associate Professor Emeritus, Department of Theatre;* B.A., Franklin College

**Crosthwaite, James C. (1965)**; *Professor Emeritus, Department of Chemistry;* B.S., Anderson College; M.A., DePauw University; Ph.D., Duke University

**Croy, Marvin J. (1980)**; *Professor Emeritus, Department of Philosophy;* B.A., Florida State University; Ph.D., Florida State University

**Culbreth, John R. (2004)**; *Professor Emeritus, Department of Counseling;* B.S., Appalachian State University; M.A., Appalachian State University; Ph.D., University of North Carolina at Greensboro

**Curran, Kent E. (1984)**; *Professor Emeritus, Department of Management;* B.S.M.E., Bradley University; M.B.A., Bradley University; D.B.A., Louisiana State University

**Daneshvar, Kasra (1987)**; *Professor Emeritus, Department of Electrical and Computer Engineering;* B.S., Louisiana State University; M.S., University of Illinois; Ph.D., University of Illinois

**Davis, Boyd Hill (1970)**; *Distinguished Professor Emerita, Department of English;* B.A., University of Kentucky; M.A., University of North Carolina at Chapel Hill; Ph.D., University of North Carolina at Chapel Hill

**Davis, David Christopher (1989)**; *Professor Emeritus, Department of English;* B.A., Syracuse University; M.F.A., University of Iowa

**Davis, Peter S. (2007)**; *Professor Emeritus, Department of Management;* B.S.B.A., Appalachian State University; Ph.D., University of South Carolina

**DiBiase, Warren J. (1997)**; *Associate Professor Emeritus, Department of Middle, Secondary, and K-12 Education;* B.S., Ohio University; B.S.Ed., Ohio University; M.S.Ed., Youngstown State University; Ed.D., West Virginia University

**Diemer, John A. (1988)**; *Professor Emeritus, Department of Earth, Environmental, and Geographical Sciencess;* B.A., Oberlin College; M.A., State University of New York at Binghamton; Ph.D., State University of New York at Binghamton

**Dienemann, Jacqueline A. (2003)**; *Professor Emerita, School of Nursing;* B.S., Mount Saint Mary's CollegeN.; M.S.N., Catholic University of America; Ph.D., Catholic University of America

**Dubois, Philip L. (2005)**; *Chancellor Emeritus and Professor Emeritus, Department of Political Science and Public Administration;* A.B., University of California, Davis; M.S., University of Wisconsin-Madison; Ph.D., University of Wisconsin-Madison

**DuBois, Thomas D. (1967)**; *Distinguished Professor Emeritus, Department of Chemistry;* B.A., McMurry College; M.S., Ohio State University; Ph.D., Ohio State University

**Dudley, James R. (1991)**; *Professor Emeritus, Department of Social Work;* B.S., University of Illinois; M.S.W., University of Illinois; Ph.D., Bryn Mawr College

**Dunaway, David M. (2005)**; *Associate Professor Emeritus, Department of Educational Leadership;* B.A., Auburn University; M.A., University of South Alabama; Ed.D., Auburn University

**Easley, Patricia Burke (1972)**; *Associate Professor and Librarian Emerita, Atkins Library;* B.A., State University of New York at Buffalo; M.L.S., University of North Carolina at Chapel Hill

**Edwards, Barbara Ann (1976)**; *Associate Professor Emerita, Department of Reading and Elementary Education;* B.S., Kent State University; M.A., University of South Florida; Ph.D., University of South Florida

**Edwards, Lienne D. (1982)**; *Associate Professor Emerita, School of Nursing;* B.S.N., University of North Carolina at Chapel Hill; M.S.N., University of North Carolina at Greensboro; Ph.D., University of North Carolina at Greensboro

**Elias, Nabil S. (2001)**; *Associate Professor Emeritus, Turner School of Accountancy;* B.Com., Alexandria University, Egypt; M.S., University of Minnesota; Ph.D., University of Minnesota

**Estrada, Horacio V. (1983)**; *Associate Professor Emeritus, Department of Mechanical Engineering and Engineering Science;* B.S., University of Guadalajara; M.S., National Institute of Mexico; Ph.D., Rensselaer Polytechnic Institute

**Evans, Christopher (2010)**; *Professor Emeritus, Department of Mechanical Engineering and Engineering Science;* B.S., University of Manchester Institute of Science and Technology; M.S., Cranfield Institute of Technology; Ph.D., University of Birmingham, United Kingdom

**Evett, Jack B. (1967)**; *Professor Emeritus, Department of Civil and Environmental Engineering;* B.S., University of South Carolina; M.S., University of South Carolina; Ph.D., Texas A&M University

**Ferraro, Gary P. (1971)**; *Professor Emeritus, Department of Anthropology;* B.A., Hamilton College; M.A., Syracuse University; Ph.D., Syracuse University

**Fishman, Stephen M. (1967)**; *Professor Emeritus, Department of Philosophy;* A.B., Columbia College; M.A., Columbia University; Ph.D., Columbia University

**Fleitas, Daniel W. (1970)**; *Associate Professor Emeritus, Department of Political Science;* B.S.P., University of Florida; B.A., University of South Florida; M.S., Florida State University; Ph.D., Florida State University

**Flowers, Claudia P. (1995)**; *Professor Emerita, Department of Educational Leadership;* B.S., West Georgia College; M.Ed., Georgia State University; Ph.D., Georgia State University

**Foss, Gwendolyn F. (1998)**; *Associate Professor Emerita, School of Nursing;* B.S.N., University of Washington; M.S.N., Wayne State University; D.N.Sc., University of San Diego

**Frankle, Raymond A. (1981)**; *University Librarian Emeritus, Atkins Library;* A.A., Concordia University; B.A., Concordia University; M.L.S., Long Island University

**Frazier, Joyce W. (1988)**; *Clinical Professor Emerita, Office of School and Community Partnerships, Cato College of Education; Clinical Assistant Professor, Department of Reading and Elementary Education*; B.A., Marshall University; M.Ed., Marshall University; Ph.D., University of South Carolina

**Freeman, Heather D. (2006)**; *Professor Emerita, Department of Art and Art History;* B.A., Oberlin College; M.F.A., Rutgers University

**Freitag, Alan (1998)**; *Professor Emeritus, Department of Communication Studies;* B.S., University of Wisconsin, Oshkosh; M.A., Webster University; Ph.D., Ohio University

**Friday, Paul C. (1992)**; *Professor Emeritus, Department of Criminal Justice and Criminology;* B.A., Drew University; M.A., University of Wisconsin; Ph.D., University of Wisconsin

**Furr, Susan R. (1980)**; *Professor Emerita, Department of Counseling;* B.A., University of North Carolina at Greensboro; M.A., Wake Forest University; Ph.D., University of North Carolina at Chapel Hill

**Furuseth, Owen J. (1977)**; *Associate Provost Emeritus, Metropolitan Studies and Extended Academic Programs; Professor Emeritus, Department of Earth, Environmental, and Geographical Sciences*; B.A., East Carolina University; M.A., East Carolina University; Ph.D., Oregon State University

**Gall, David (2009)**; *Associate Professor Emeritus, Department of Art and Art History;* B.F.A., Visva-Bharati University, India; M.F.A., Maharaja Sayajirao University of Baroda, India; Ph.D., Pennsylvania State University

**Gandar, John M. (1982)**; *Professor Emeritus, Department of Economics; B.A., Massey University*; M.A., Victoria University; M.A., University of Missouri-Columbia; Ph.D., University of Missouri-Columbia

**Gardner, Susan Jane (1990)**; *Associate Professor Emerita, Department of English;* B.A., Macalester College; M.A., University of Wisconsin; Ph.D., Rhodes University

**Gay, William C. (1980)**; *Professor Emeritus, Department of Philosophy;* B.A., Carson-Newman College; Ph.D., Boston College

**Gergely, Ioan (Janos) (1998)**; *Associate Professor, Department of Civil and Environmental Engineering;* Dipl.Ing., Technical Institute of Cluj-Napoca, Romania; M.Sc., University of Utah; Ph.D., University of Utah

**Geurin, Virginia Shaw (1972)**; *Professor Emerita, Department of Management;* B.S., University of Arkansas; M.A., University of Arkansas; M.B.A., University of Arkansas; Ph.D., University of Arkansas

**Gilmore, David C. (1979)**; *Associate Professor Emeritus, Department of Psychology;* B.A., Capital University; M.A., Ohio State University; Ph.D., Ohio State University

**Godfrey, Lon Howard (1975)**; *Professor Emeritus, Turner School of Accountancy;* B.S., Mississippi College; M.Acc., University of Mississippi; Ph.D., University of Alabama; C.P.A.,

**Gonzalez, Ann B. (1990)**; *Professor Emerita, Department of Languages, Cultures, and Translation;* B.A., University of North Carolina at Chapel Hill; M.A., University of South Carolina; Ph.D., University of South Carolina

**Goolkasian, Paula A. (1974)**; *Professor Emerita, Department of Psychology;* B.A., Emmanuel College; M.A., Iowa State University; Ph.D., Iowa State University

**Govan, Sandra Y. (1983)**; *Professor Emerita, Department of English;* B.A., Valparaiso University; M.A., Bowling Green State University; Ph.D., Emory University

**Graham, Johnny R. (1984)**; *Professor Emeritus, Department of Civil and Environmental Engineering;* B.S.E., University of North Carolina at Charlotte; M.S.E., University of North Carolina at Charlotte; Ph.D., North Carolina State University

***Gray, Lee E. (1990)**; *Interim Senior Associate Provost and Interim Dean Emeritus, Office of Academic Affairs; Professor, School of Architecture*; B.A., Iowa State University; M.Arch., University of Virginia; Ph.D., Cornell University

**Green, Michael G. (1978)**; *Associate Professor Emeritus, Department of Reading and Elementary Education;* B.A., University of California, Berkeley; Ed.M., Harvard University; Ed.D., Harvard University

**Gretes, John A. (1982)**; *Professor Emeritus, Department of Educational Leadership;* B.S., Old Dominion University; M.S., Old Dominion University; Ed.D., University of Virginia

**Grey, Robert Waters (1969)**; *Associate Professor Emeritus, Department of English;* A.B., Brown University; M.A., University of Virginia

**Grimsley, Douglas Lee (1970)**; *Professor Emeritus, Department of Psychology;* B.S., Florida State University; Ph.D., Syracuse University

**Grote, Dale A. (1992)**; *Associate Professor Emeritus, Department of Languages, Cultures, and Translation;* B.A., Cornell College; M.A., University of Iowa; Ph.D., University of Wisconsin-Madison

**Guinn, Robert E. (1976)**; *Associate Professor Emeritus, Department of Accounting;* B.A., Carson-Newman College; M.A., University of Alabama; Ph.D., University of Alabama; C.P.A.,

**Gutierrez, Nancy A. (2005)**; *Dean Emerita, College of Humanities & Earth and Social Sciences; Professor Emerita, Department of English*; B.A., Denison University; M.A., The University of Chicago; Ph.D., The University of Chicago

**Hadzikadic, Mirsad S. (1987)**; *Professor Emeritus, Department of Software and Information Systems;* B.S., University of Banja Luka, Bosnia; M.S., University of Banja Luka, Bosnia; Ph.D., Southern Methodist University

**Hagopian, Gloria A. (1993)**; *Professor Emerita, School of Nursing;* B.S.N., University of Rochester; M.S.N., University of Rochester; Ed.D., University of Rochester

**Hamaker, Charles A. (1998)**; *Professor Emeritus, J. Murrey Atkins Library;* B.S., Eastern Illinois University; M.L.S., Brigham Young University

**Hancock, Dawson (1995)**; *Professor Emeritus, Department of Educational Leadership;* Ph.D., Fordham University

**Hari, Yogeshwar (1978)**; *Professor Emeritus, Department of Mechanical Engineering and Engineering Science;* B.S.M.E., Punjab University; M.S.M.E., Purdue University; Ph.D., Purdue University; P.E.,

**Harver, Andrew R. (1991)**; *Professor Emeritus, Department of Epidemiology and Community Health;* B.S., University of Washington; M.S., Ohio University; Ph.D., Ohio University

**Head, Sue Greenwood (1976)**; *Associate Professor Emerita, School of Nursing;* A.A., Central Piedmont Community College; B.S., University of North Carolina at Charlotte; M.S.N.; M.S.N., University of North Carolina at Chapel Hill

**Higham, Carol (2015)**; *Visiting Lecturer Emerita, Department of History;* B.A., Wellesley College; M.A., Yale University; Ph.D., Duke University

**Hight, Charles C. (1976)**; *Dean Emeritus, College of Architecture; Professor Emeritus, School of Architecture*; B.S.C.E., University of Maryland; B.Arch., Auburn University

**Hilger, Helene A. (1993)**; *Associate Professor Emerita, Department of Civil and Environmental Engineering;* B.A., Rutgers University; B.S., University of North Carolina at Charlotte; M.S., University of North Carolina at Charlotte; Ph.D., North Carolina State University

**Hill, Jerre M. (1987)**; *Teaching Professor Emeritus, Department of Mechanical Engineering and Engineering Science;* B.S., University of South Carolina; M.E., University of South Carolina; Ph.D., Virginia Polytechnic Institute and State University

**Hill Jr., Bill J. (1982)**; *Professor Emerita, Department of Communication Studies;* B.S., Appalachian State University; M.A., Wake Forest University; Ph.D., Florida State University

**Hinson, Janice M. (2009)**; *Professor Emerita, Department of Reading and Elementary Education;* B.A., West Liberty State College; M.S., Old Dominion University; Ph.D., University of Virginia

**Hirschel, Joseph David (1977)**; *Professor Emeritus, Department of Criminal Justice and Criminology;* B.A., Cambridge University; M.A., State University of New York at Albany; Ph.D., State University of New York at Albany

**Hogue, James K. (1999)**; *Associate Professor Emeritus, Department of History;* B.S., United States Military Academy; M.A., Ohio State University; M.A., Princeton University; Ph.D., Princeton University

**Hoover, Heather (1993)**; *Associate Professor Emerita, Department of Art;* B.A., Smith College; M.F.A., University of North Carolina at Greensboro

**Hopper, Edward W. (1967)**; *Associate Professor Emeritus, Department of Languages, Cultures, and Translation;* B.A., North Texas State University; M.A., University of Missouri; Ph.D., University of Missouri

**Hornaday, Robert W. (1984)**; *Professor Emeritus, Department of Management;* B.A., University of Iowa; M.A., University of Missouri; M.B.A., Florida State University; D.B.A., Florida State University

**Houston, Evan G. (1974)**; *Professor Emeritus, Department of Mathematics and Statistics;* B.A., Hendrix College; Ph.D., University of Texas at Austin

**Hubbard, Karen W. (1986)**; *Associate Professor Emerita, Department of Dance;* B.A., Kent State University; M.A., The Ohio State University

**Hubbs, Dawn M. (1976)**; *Associate Professor and Librarian Emerita, Atkins Library;* A.B., Indiana University; M.L.S., Indiana University

**Hudson, Eldred P. (1988)**; *Associate Professor Emeritus, Department of Art and Art History;* B.F.A., University of Georgia; M.F.A., Boston University

**Huffman, John L. (1993)**; *Professor Emeritus, Department of Communication Studies;* B.A., Black Hills State College; Ph.D., University of Iowa

**Huskey, Sybil D. (1992)**; *Professor Emerita, Department of Dance; B.F.A., University of Utah*; M.F.A., University of Utah

**Hutchison, Charles B. (2003)**; *Professor Emeritus, Department of Middle, Secondary, and K-12 Education;* B.Sc., University of Cape Coast; M.A., Oklahoma Christian University of Science and Arts Ministry; Ph.D., Georgia State University

**Hymovich, Debra (1993)**; *Professor Emerita, School of Nursing;* B.S., Skidmore College; M.A., Columbia University; Ph.D., University of Maryland

**Ingalls, Gerald L. (1973)**; *Professor Emeritus, Department of Earth, Environmental, and Geographical Sciencess;* B.A., University of Southwestern Louisiana; M.A., University of Florida; Ph.D., Michigan State University

**Ives, Sallie M. (1977)**; *Associate Professor Emerita, Department of Earth, Environmental, and Geographical Sciencess;* B.A., University of Maryland; M.A., University of Maryland; Ph.D., University of Illinois

**Jacoby, Jay B. (1978)**; *Professor Emeritus, Department of English;* B.A., University of Cincinnati; M.A., Villanova University; Ph.D., University of Pittsburgh

**Janken, Janice K. (1989)**; *Associate Professor Emerita, School of Nursing;* B.S.N., University of Illinois; M.S.N., University of Illinois; Ph.D., University of Illinois

**Jernigan III, Irocus Edward (1989)**; *Associate Professor Emeritus, Department of Management;* B.S., Middle Tennessee State University; M.B.A., Memphis State University; D.B.A., Memphis State University

**Jernigan-Bostian, Marinell H. (1972)**; *Professor Emerita, School of Nursing;* B.S., Johns Hopkins University; M.S., University of Alabama; Ed.D., University of Alabama

**Johnson, Kathryn Virginia (1988)**; *Associate Professor, Department of Religious Studies;* B.A., University of North Carolina at Chapel Hill; M.A., Harvard University; Ph.D., Harvard University

**Johnson, Lyman L. (1972)**; *Professor Emeritus, Department of History;* B.A., Tufts University; M.A., University of Rhode Island; Ph.D., University of Connecticut

**Johnson, Robert E. (1994)**; *Dean Emeritus, The William States Lee College of Engineering; Professor Emeritus, Department of Mechanical Engineering and Engineering Science*; B.S.E.S., State University of New York at Buffalo; M.S.E.S., California Institute of Technology; Ph.D., California Institute of Technology

**Jones Jr., Daniel S. (1973)**; *Associate Professor Emeritus, Department of Chemistry;* B.S., Wake Forest University; A.M., Harvard University; Ph.D., Harvard University

**Jones, Jeanneine P. (1992)**; *Professor Emerita, Department of Middle, Secondary, and K-12 Education;* B.A., Catawba College; M.Ed., University of North Carolina at Greensboro; Ed.D., University of North Carolina at Greensboro

**Jordan, Sarah L. (1997)**; *Associate Professor Emerita, Department of Special Education and Child Development;* B.S., East Carolina University; M.A., East Carolina University; Ph.D., University of Florida

**Kakad, Yogendra (Yogi) P. (1976)**; *Professor Emeritus, Department of Electrical and Computer Engineering;* B.S., University of Baroda, India; M.S., University of Florida; Ph.D., University of Florida

**Kampen, Michael (1978)**; *Associate Professor Emeritus, Department of Art;* B.A., University of Minnesota; M.A., Tulane University; Ph.D., University of Pennsylvania

**Kane, Cheryl (2003)**; *Lecturer Emerita, Department of Management;* B.S., Western Michigan University; M.B.A., Duke University

**Kaplan, Charles Howard (1986)**; *Associate Professor Emeritus, Department of Psychology;* B.A., Kent State University; M.A., Columbia University; Ed.M., Columbia University; Ph.D., Columbia University

**Kaplan, Laura Duhan (1989)**; *Professor Emerita, Department of Philosophy;* B.A., Brandeis University; M.Ed., Cambridge College; M.A., Claremont Graduate University; Ph.D., Claremont Graduate University

**Kazemi, Donna M. (2003)**; *Professor Emerita, School of Nursing;* B.S., Michigan State University; B.S.N., Grand Valley State University; M.S., Central Michigan University; M.S.N., University of Phoenix; Ph.D., Walden University

**Kelly, Michael J. (2005)**; *Professor Emeritus, Department of Philosophy;* B.A., University of Massachusetts Boston; Ph.D., Boston University

**Khire, Milind (2013)**; *Professor Emeritus, Department of Civil and Environmental Engineering;* B.E., University of Mumbai; M.S., University of Miami; Ph.D., University of Wisconsin--Madison

**Kim, Rhyn Hyun (1965)**; *Professor Emeritus, Department of Mechanical Engineering;* B.S.M.E., Seoul National University, South Korea; M.S.M.E., Michigan State University; Ph.D., Michigan State University

**King, Frances (1977)**; *Associate Professor Emerita, School of Nursing;* B.S.N., University of North Carolina at Chapel Hill; M.Ed., University of North Carolina at Charlotte

**King, Lee Ellis (1976)**; *Professor Emeritus, Department of Civil and Environmental Engineering;* B.S.C.E., North Carolina State University; M.C.E., North Carolina State University; D.Eng., University of California, Berkeley; P.E.,

**Knoblauch Jr., Cyril H. (1998)**; *Professor Emeritus, Department of English;* B.A., College of St. Thomas; M.A., Brown University; Ph.D., Brown University

**Kohut, Gary F. (1983)**; *Professor Emeritus, Department of Management;* B.S., Youngstown State University; M.B.A., Youngstown State University; Ph.D., Southern Illinois University

**Laditka, James N. (2008)**; *Associate Professor Emeritus, Department of Epidemiology and Community Health;* B.S., State University of New York Polytechnic Institute; M.P.A.D., Syracuse University; Ph.D., Syracuse University; Ph.D., State University of New York at Albany

**Laditka, Sarah Beth (2008)**; *Professor Emerita, Department of Epidemiology and Community Health;* B.A., Colgate University; B.S., State University of New York Polytechnic Institute; M.B.A., Syracuse University; M.A., Syracuse University; Ph.D., Syracuse University

**Ladner, Betty (1999)**; *Associate Professor Emerita, J. Murrey Atkins Library;* B.A., College of Mount St. Joseph; M.A., University of Chicago

**Lamal, Peter Andre (1970)**; *Associate Professor Emeritus, Department of Psychology;* B.A., St. Thomas College; M.A., Indiana State University; Ph.D., University of Wisconsin

**Lambert, Alan Leslie (1974)**; *Professor Emeritus, Department of Mathematics;* B.S., University of Miami; M.S., University of Miami; Ph.D., University of Michigan

**Lambla, Kenneth A. (1983)**; *Professor Emeritus, School of Architecture;* B.Envd., University of Kansas; M.Arch., University of California, Berkeley

**Lamorey, Suzanne G. (2005)**; *Associate Professor Emerita, Department of Special Education and Child Development;* B.A., University of California, Berkeley; M.S., Arizona State University; Ph.D., University of Oregon

**Lance, Larry Michael (1970)**; *Associate Professor Emeritus, Department of Sociology;* B.A., Bowling Green State University; M.A., Bowling Green State University; Ph.D., Purdue University

**Langsam, Deborah Michael (1980)**; *Associate Professor Emerita, Department of Biological Sciences;* B.S., Brooklyn College; M.A., City University of New York; Ph.D., Duke University

**Laurent, Jane K. (1979)**; *Associate Professor Emerita, Department of History;* B.A., University of Georgia; M.A., University of Georgia; Ph.D., Brown University

**Leamy, Larry J. (1988)**; *Professor Emeritus, Department of Biological Sciences;* B.S., Eastern Illinois University; M.S., University of Illinois at Urbana-Champaign; Ph.D., University of Illinois at Urbana-Champaign

**Lee, Jo Ann (1983)**; *Associate Professor Emerita, Department of Psychology;* A.B., University of Georgia; M.S., University of Georgia; Ph.D., University of Georgia

**Leeman, Carol B. (1997)**; *Senior Lecturer Emerita, Department of Communication Studies;* B.A., University of North Carolina at Charlotte; M.A., Wake Forest University

**Leeman, Richard W. (1989)**; *Professor Emeritus, Department of Communication Studies;* B.S., Shippensburg State College; M.A., University of Maryland; Ph.D., University of Maryland

**Leiva, Miriam A. (1966)**; *Distinguished Professor Emerita, Department of Mathematics and Statistics;* B.A., Guilford College; M.A., University of North Carolina at Chapel Hill; Ph.D., Union Graduate School

**Lejk, Richard A. (1983)**; *Associate Professor Emeritus, Department of Computer Science;* B.S., Georgia Institute of Technology; M.S.E., University of Michigan; Ph.D., Texas A&M University

**Levy, Janet E. (1980)**; *Professor Emerita, Department of Anthropology;* A.B., Brown University; M.A., Washington University; Ph.D., Washington University

**Lin, Hwan-Chyang (1993)**; *Professor Emeritus, Department of Economics;* B.A., National Chung Hsing University; M.S., University of Illinois at Urbana-Champaign; Ph.D., University of Illinois at Urbana-Champaign

**Liner, Gaines H. (1971)**; *Professor Emeritus, Department of Economics;* B.S., North Carolina State University; M.S., Clemson University; Ph.D., Clemson University

**Liu, Cheng (1970)**; *Professor Emeritus, Department of Engineering Technology;* B.S.C.E., National Taiwan University; M.S.C.E., West Virginia University; P.E.,

**Lock, Corey R. (1987)**; *Professor Emeritus, Department of Educational Leadership;* B.A., University of Kentucky; M.Ed., Miami University; Ph.D., Ohio State University

**Long, Gary (1972)**; *Associate Professor Emeritus, Department of Psychology;* B.A., Wake Forest University; M.S., North Carolina State University; Ph.D., University of Waterloo

**Lord, J. Dennis (1970)**; *Professor Emeritus, Department of Earth, Environmental, and Geographical Sciencess;* B.A., University of Georgia; M.A., University of Georgia; Ph.D., University of Georgia

**Lord, Vivian B. (1994)**; *Professor Emerita, Department of Criminal Justice and Criminology;* B.A., University of Georgia; M.A., Goddard College; Ph.D., North Carolina State University

**Lorden, Joan F. (2003)**; *Provost and Vice Chancellor Emerita, Academic Affairs; Professor Emerita, Department of Psychological Science*; B.A., City College of New York; M.S., Yale University; Ph.D., Yale University

**Lucas, Thomas G. (1983)**; *Professor Emeritus, Department of Mathematics and Statistics;* B.S., Oklahoma Baptist University; M.A., University of Missouri; Ph.D., University of Missouri

**Lucas, Thomas R. (1969)**; *Professor Emeritus, Department of Mathematics and Statistics;* B.S., University of Florida; M.S., University of Michigan; Ph.D., Georgia Institute of Technology

**Lumpkin, Royce (1998)**; *Professor Emeritus, Department of Music;* B.M.Ed., North Texas State University; M.M.Ed., North Texas State University; D.M.A., University of Oklahoma

**Lunsford, Ronald F. (1991)**; *Professor Emeritus, Department of English;* B.A., University of North Carolina at Charlotte; M.A., University of North Carolina at Chapel Hill; Ph.D., Florida State University

**Lyons, James E. (1979)**; *Professor Emeritus, Department of Educational Leadership;* B.S., Elizabeth City State University; M.A., East Carolina University; Ph.D., Ohio State University

**MacLean, Robert J. (1981)**; *Associate Professor Emeritus, School of Architecture;* B.Arch., University of California, Berkeley; M.A., University of California, Los Angeles

**Madsen, Ronald A. (1977)**; *Professor Emeritus, Department of Economics;* B.S., University of Illinois; M.B.A., Arizona State University; D.B.A., Arizona State University

**Maisto, Albert A. (1977)**; *Distinguished Professor Emeritus, Department of Psychological Science; B.A., Murray State University*; M.A., University of Alabama; Ph.D., University of Alabama

**Malmgren, Edward G. (1976)**; *Associate Professor Emeritus, Turner School of Accountancy;* B.A., Lake Forest College; M.S., University of Iowa; Ph.D., University of Iowa; C.P.A.,

**Martin, Walter E. (1979)**; *Associate Professor Emeritus, Department of Earth, Environmental, and Geographical Sciencess;* B.S., East Carolina University; M.A., East Carolina University; Ph.D., University of Tennessee

**Matthews, James F. (1964)**; *Professor Emeritus, Department of Biological Sciences;* A.B., Atlantic Christian College; M.S., Cornell University; Ph.D., Emory University

**Mauldin, Ruth N. (1970)**; *Associate Professor Emerita, School of Nursing;* B.A., Duke University; M.S., University of Alabama

**Maxwell-Roddey, Bertha L. (1978)**; *Distinguished Professor Emerita, Department of Africana Studies;* B.A., Johnson C. Smith University; M.A., University of North Carolina at Greensboro; Ph.D., Union Graduate School

**May, K. Randall (1981)**; *Associate Professor and Librarian Emerita, Atkins Library;* B.A., Memphis State University; M.L.S., University of Illinois

**Mayes, Terrill Wayne (1967)**; *Associate Professor Emeritus, Ishwar Aggarwal Department of Physics and Optical Science;* B.S., Western Kentucky University; M.A., Vanderbilt University; Ph.D., Vanderbilt University

**Mays, Lawrence E. (2004)**; *Professor Emeritus, Department of Bioinformatics and Genomics;* B.A., University of Virginia; M.S., Pennsylvania State University; M.A., Temple University; Ph.D., University of Virginia

**Mayo, Pauline S. (1976)**; *Professor Emerita, School of Nursing;* B.S.N., Oklahoma Baptist University; M.S.N., Case Western Reserve University; Ed.D., Case Western Reserve University

**McCoy, William J. (1970)**; *Professor Emeritus, Department of Political Science;* A.B., Western Kentucky University; M.A., Western Kentucky University; Ph.D., University of Tennessee

**McKinley, Shepherd (2003)**; *Lecturer Emeritus, Department of History;* B.A., Duke University; M.A., University of North Carolina at Charlotte; Ph.D., University of Delaware

**McLeod, Ralph O. (1970)**; *Assistant Professor Emeritus, Department of Languages, Cultures, and Translation;* B.Ed., University of Toledo; M.A.T., University of New Mexico; Ph.D., University of New Mexico

**Mead, Timothy D. (1979)**; *Professor Emeritus, Department of Political Science;* A.B., George Washington University; M.A., George Washington University; Ph.D., George Washington University

**Mellichamp, T. Lawrence (1976)**; *Professor Emeritus, Department of Biological Sciences;* B.S., University of North Carolina at Charlotte; M.S., University of Michigan; Ph.D., University of Michigan

**Melton, Billy F. (1971)**; *Associate Professor Emeritus, Ishwar Aggarwal Department of Physics and Optical Science;* B.S., Oklahoma State University; Ph.D., Oklahoma State University

**Menhinick, Edward F. (1965)**; *Professor Emeritus, Department of Biological Sciences;* B.A., Emory University; M.S., Cornell University; Ph.D., University of Georgia

**Merrill, Charles S. (1969)**; *Associate Professor Emeritus, Department of Languages, Cultures, and Translation;* B.A., North Texas State University; M.A., North Texas State University; Ph.D., University of Texas at Austin

**Michael, Susan K. (2007)**; *Lab Coordinator and Lecturer Emerita, Department of Chemistry;* B.A., Augustana College; M.S., University of North Carolina at Charlotte

**Miller, Martha L. (1976)**; *Professor of Spanish Emerita, Department of Languages, Cultures, and Translation;* B.A., Smith College; M.A., University of Wisconsin; Ph.D., Washington University

**Mobley Jr., Charles E. (1972)**; *Associate Professor Emeritus, Department of Engineering Technology;* B.S.I.E., Mississippi State University; M.S.I.E., Mississippi State University; P.E.,

**Modaress-Razavi, Hassan (1980)**; *Associate Professor Emeritus, Department of Computer Science;* B.S., West Virginia University; M.S., West Virginia University; Ph.D., West Virginia University

**Monaghan, Robert (2012)**; *Lecturer Emeritus, Turner School of Accountancy;* B.S., University of North Carolina at Charlotte; A.C.C., University of North Carolina at Charlotte

**Mohanty, Ganesh Prasad (1972)**; *Distinguished Professor Emeritus, Department of Mechanical Engineering and Engineering Science;* B.Sc., Utkal University, India; M.S., Michigan Technological University; Ph.D., Illinois Institute of Technology

**Moore, Linda Aderholdt (1985)**; *Associate Professor Emerita, School of Nursing;* B.S.N., Duke University; M.S.N., University of Virginia; Ed.D., University of Virginia

**Morgan, Margaret (Meg) P. (1987)**; *Associate Professor Emerita, Department of English;* B.A., Kean University; M.A., University of Maryland; Ph.D., Purdue University

**Mork, Dorlan D. (1972)**; *Associate Professor Emeritus, Department of Curriculum and Instruction;* B.A., Luther College; M.A., Western Carolina University; Ed.D., University of Florida

**Morrill, Dan L. (1963)**; *Professor Emeritus, Department of History;* B.A., Wake Forest University; M.A.; Ph.D., Emory University

**Mosley, Michael (1971)**; *Associate Professor Emeritus, Department of Music;* B.Mus., Hardin-Simmons University; M.Mus., Indiana University

**Mostafavi, M. Taghi (1986)**; *Associate Professor Emeritus, Department of Computer Science;* B.S., Oklahoma State University; M.S., Oklahoma State University; Ph.D., Oklahoma State University

**Mozenter, Frada L. (1981)**; *Professor and Librarian Emerita, Atkins Library;* A.B., Temple University; M.A., University of Arizona; M.S.L.S., Drexel University

**Mraz, Maryann (2002)**; *Professor Emerita, Department of Reading and Elementary Education;* B.A., John Carroll University; M.Ed., John Carroll University; Ph.D., Kent State University

**Mullin, Joan A. (2013)**; *Professor Emerita, Department of English and Department of Writing, Rhetoric, and Digital Studies;* B.A., Northeastern Illinois University; M.A., Northeastern Illinois University; Ph.D., Loyola University

**Munday, Edgar G. (1987)**; *Associate Professor Emeritus, Department of Mechanical Engineering and Engineering Science;* B.S., Clemson University; M.S., Clemson University; Ph.D., Virginia Polytechnic Institute and State University

**Munroe, Jennifer A. (2004)**; *Professor Emeria, Department of English;* A.M., University of Illinois at Urbana-Champaign; Ph.D., University of Illinois at Urbana-Champaign

**Mynatt, Patricia (2010)**; *Associate Dean Emerita for Undergraduate Programs, Belk College of Business; Clinical Professor, Turner School of Accountancy*; S.B.A., Auburn University; Ph.D., University of North Carolina at Chapel Hill

**Neese, Jane B. (1994)**; *Senior Associate Dean, College of Health and Human Services; Associate Professor, School of Nursing*; B.S.N., University of South Carolina; M.S., University of Maryland at Baltimore; Ph.D., University of Virginia

**Nelson, John A. (1976)**; *Associate Professor Emeritus, School of Architecture;* B.Arch., Kent State University; M.Arch., Kent State University

**Newman, Ann M. (1981)**; *Associate Professor Emerita, School of Nursing;* B.S.N., University of North Carolina at Charlotte; M.S.N., University of North Carolina at Chapel Hill; D.S.N., University of Alabama at Birmingham

**Nicolaides, Kathleen M. (2004)**; *Senior Lecturer Emerita, Department of Criminal Justice and Criminology;* B.A., Duke University; J.D., Emory University

**Nkomo, Stella M. (1983)**; *Professor Emerita, Department of Management;* B.S., Bryant College; M.B.A., University of Rhode Island; Ph.D., University of Massachusetts

**Noiset, Marie-Thérèse (1986)**; *Professor Emerita, Department of Languages, Cultures, and Translation;* B.A., Institut du Parnasse, Belgium; M.A., Trinity College; Ph.D., University of Connecticut

**Nunnally Jr., Bennie H. (1979)**; *Professor Emeritus, Department of Finance;* B.A., Virginia Union University; M.B.A., Atlanta University; D.B.A., University of Virginia

**Oberhofer, Edward (1967)**; *Associate Professor Emeritus, Ishwar Aggarwal Department of Physics and Optical Science;* B.S., North Carolina State College; M.S., North Carolina State University; Ph.D., North Carolina State University

**Oh, Hae-Soo (1984)**; *Professor Emeritus, Department of Mathematics and Statistics;* B.S., Kyungpook National University, South Korea; M.S., Kyungpook National University, South Korea; Ph.D., University of Michigan

**Oliver, James D. (1974)**; *Bonnie E. Cone Distinguished Professor of Teaching Emeritus; Professor Emeritus, Department of Biological Sciences;* B.S., University of Arizona; Ph.D., Georgetown University

**Papadopoulos, Alexander Spero (1978)**; *Professor Emeritus, Department of Mathematics;* B.S., University of Rhode Island; M.S., University of Rhode Island; M.S., Virginia Polytechnic Institute and State University; Ph.D., Virginia Polytechnic Institute and State University

**Penninger, Edna Lorraine (1968)**; *Professor and Librarian Emerita, Atkins Library;* B.A., Flora McDonald College; M.A., University of Denver; M.A.Ed., University of North Carolina at Charlotte

**Peters, Susan E. (1979)**; *Associate Professor Emerita, Department of Biological Sciences;* B.S., Northern Arizona University; M.S., Northern Arizona University; Ph.D., University of California, Davis

**Phillips, Douglas Howard (1995)**; *Professor Emeritus, Department of Electrical Engineering;* B.S., Oklahoma State University; M.A., University of Oklahoma; Ph.D., University of New Mexico

**Piel, John A. (1988)**; *Professor Emeritus, Department of Reading and Elementary Education;* B.A., University of Northern Colorado; M.A., University of Northern Colorado; Ph.D., Florida State University

**Pleasants Jr., John (1969)**; *Associate Professor Emeritus, Department of Human Services;* A.B., University of North Carolina at Chapel Hill; M.A.T., University of North Carolina at Chapel Hill; Ph.D., University of North Carolina at Chapel Hill

**Portwood, Sharon G. (2005)**; *Professor Emerita, Department of Epidemiology and Community Health;* B.S., University of Texas at Austin; J.D., University of Texas at Austin; M.A., University of Virginia; Ph.D., University of Virginia

**Presler, Judith Louise (1970)**; *Associate Professor Emeritus, Department of Philosophy;* A.B., Baldwin-Wallace College; Ph.D., University of Oklahoma

**Presnell, Barbara (2003)**; *Senior Lecturer Emerita, Department of Writing, Rhetoric, and Digital Studies;* B.A., University of North Carolina at Greensboro; M.F.A., University of North Carolina at Greensboro; M.A., University of Kentucky

**Price, Jeffrey W. (1992)**; *Associate Professor Emeritus, Department of Music;* B.M., University of North Carolina at Greensboro; M.M., University of North Carolina at Greensboro; D.M., Florida State University

**Priebe, Ronald L. (1970)**; *Associate Professor Emeritus, Department of Engineering Technology and Construction Management;* B.S.M.E., Valparaiso University; M.S.M.E., University of Illinois

**Probst, Linda S. (1988)**; *Lecturer Emeritus, Department of Applied Physiology, Health, and Clinical Sciences;* B.S., University of Vermont; M.A.T., University of North Carolina at Chapel Hill

**Pugalee, David K. (1997)**; *Director Emeritus, Center for Math Science and Technology Education; Professor, Department of Middle, Secondary, and K-12 Education*; B.S., Lee College; M.Ed., University of Southern Mississippi; M.S., North Carolina Central University; Ph.D., University of North Carolina at Chapel Hill

**Pyle, Gerald F. (1980)**; *Professor Emeritus, Department of Epidemiology and Community Health;* B.A., Kent State University; M.A., University of Chicago; Ph.D., University of Chicago

**Queen, J. Allen (1992)**; *Professor Emeritus, Department of Educational Leadership;* B.S.Ed., Western Carolina University; M.A.Ed., Western Carolina University; Ed.D., University of Virginia

**Quinn, Joseph E. (1971)**; *Professor Emeritus, Department of Mathematics and Statistics;* B.S., University of Dayton; Ph.D., Michigan State University

**Raja, Jayaraman (Jay) (1989)**; *Professor Emeritus, Academic Affairs Department of Mechanical Engineering and Engineering Science*; B.E., University of Madras, India; M.Sc., University of Madras, India; Ph.D., Indian Institute of Technology, India

**Rassel, Gary R. (1982)**; *Associate Professor Emeritus, Department of Political Science and Public Administration;* B.S., South Dakota State University; M.A., University of South Dakota; M.A., Michigan State University; Ph.D., Michigan State University

**Raymond, Lynn C. (2006)**; *Lecturer Emerita, Department of Writing, Rhetoric, and Digital Studies;* B.A., University of North Carolina at Charlotte; M.A., University of North Carolina at Charlotte

**Reeves, John C. (1996)**; *Professor Emeritus, Department of Religious Studies;* B.A., University of North Carolina at Chapel Hill; M.Div., Southeastern Baptist Theological Seminary; M.Phil., Hebrew Union College-Jewish Institute of Religion, Israel; Ph.D., Hebrew Union College-Jewish Institute of Religion, Israel

**Reimer, Robert C. (1971)**; *Professor Emeritus, Department of Languages, Cultures, and Translation;* B.A., University of Wisconsin; M.A., University of Kansas; Ph.D., University of Kansas

**Reiter, Harold B. (1972)**; *Professor Emeritus, Department of Mathematics and Statistics; B.S., Louisiana State University*; M.S., Clemson University; Ph.D., Clemson University

**Revesz, Gyorgy E. (1991)**; *Professor Emeritus, Department of Computer Science;* B.S., Eötvös Loránd University, Hungary; Ph.D., Eötvös Loránd University, Hungary

**Reynolds, Thomas L. (1982)**; *Associate Provost for Graduate Programs; Dean of the Graduate School; and Professor Emeritus, Department of Biological Sciences;* B.A., California State University; M.A., California State University; Ph.D., Ohio State University

**Rickelman, Robert J. (1991)**; *Professor Emeritus, Department of Reading and Elementary Education;* B.A., Ohio University; M.Ed., Ohio University; Ph.D., University of Georgia

**Rieman, Janice E. (2007)**; *Lecturer Emerita, Department of Writing, Rhetoric, and Digital Studies;* B.A., University of North Carolina at Charlotte; M.A., University of North Carolina at Charlotte; Ph.D., Georgia State University

**Ringwood, Amy (2004)**; *Associate Professor Emerita, Department of Biological Sciences;* B.A., Wake Forest University; Ph.D., University of Hawaii at Manoa

**Risley, John M. (1988)**; *Professor Emeritus, Department of Chemistry;* B.S., Ball State University; Ph.D., Purdue University

**Robbins, Stephanie S. (1981)**; *Professor Emerita, Department of Business Information Systems and Operations Management;* A.A., Lasell College; B.A., Emerson College; M.Ed., University of Memphis; Ph.D., University of Alabama; Ph.D., Louisiana State University

**Robinson, Bryan E. (1977)**; *Professor Emeritus, Department of Counseling, Special Education, and Child Development;* B.A., East Carolina University; M.Ed., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Greensboro

**Rose, Russell G. (1969)**; *Associate Professor Emeritus, Department of Languages, Cultures, and Translation;* B.A., Wilmington College; M.A., University of Kentucky; Ph.D., University of Kentucky

**Rothe, Franz (1989)**; *Associate Professor Emeritus, Department of Mathematics and Statistics;* B.A., Universitat Fridericiana, Germany; M.A., Eidgenossiche Technishe Hochschule, Switzerland; Ph.D., Universitat zu Tubingen, Germany

**Rowland, Bobbie Haynes (1969)**; *Professor Emerita, Department of Counseling, Special Education, and Child Development;* A.B., University of North Carolina at Greensboro; M.S., University of North Carolina at Greensboro; Ph.D., University of North Carolina at Greensboro

**Rubin, Beth A. (2002)**; *Professor Emerita, Department of Sociology;* B.A., State University of New York at New Paltz; M.A., Indiana University at Bloomington; Ph.D., Indiana University at Bloomington

**Runnion, Carole E. (1989)**; *Librarian and Associate Professor Emerita, Atkins Library;* B.A., Catawba College; M.S.L.S., University of North Carolina at Chapel Hill

**Russell, Judson W. (2005)**; *Clinical Associate Professor, Department of Finance;* B.S.B.A., University of Southern Mississippi; M.B.A., University of Southern Mississippi; M.A., University of Alabama; Ph.D., University of Alabama

**Russo, Benjamin (1984)**; *Professor Emeritus, Department of Economics;* B.A., State University of New York at Stony Brook; M.A., University of Iowa; Ph.D., University of Iowa

**Ryan, Deborah E. (1985)**; *Professor Emerita, School of Architecture Women's and Gender Studies*; B.L.Arch., North Carolina State University; M.L.Arch., Harvard University

**Saman, Paul Antonius (1963)**; *Professor Emeritus, Department of Languages, Cultures, and Translation;* Ph.D., Charles University

**Sandarg, Robert M. (1984)**; *Associate Professor Emeritus, Department of Languages, Cultures, and Translation;* B.A., University of North Carolina at Chapel Hill; M.A., University of North Carolina at Chapel Hill; Ph.D., University of North Carolina at Chapel Hill

**Sanders, Bridgette T. (1989)**; *Associate Professor Emerita and Social Sciences Librarian, J. Murrey Atkins Library;* B.S., South Carolina State University; M.S.L.I.S., Atlanta University

**Sanders, Lonnie Delores (1974)**; *Assistant Professor Emerita, School of Nursing;* B.S.N., Winston-Salem State University; M.Ed., University of North Carolina at Charlotte; M.N., University of South Carolina; Ph.D., University of South Carolina

**Schell, Joseph F. (1964)**; *Professor Emeritus, Department of Computer Science;* B.S., University of Dayton; M.A., Indiana University; Ph.D., Indiana University

**Schroeder, Richard G. (1991)**; *Professor Emeritus, Turner School of Accountancy;* B.Ed., Chicago Teachers College; M.B.A., Northwestern University; D.B.A.; B.A., Arizona State University

**Schul, Norman W. (1967)**; *Professor Emeritus, Department of Earth, Environmental, and Geographical Sciencess;* B.A., Miami University; M.A., Miami University; Ph.D., Syracuse University

**Schuster, Marilyn B. (1990)**; *Associate Professor Emerita, J. Murrey Atkins Library;* B.A., University of North Carolina at Charlotte; M.L.S., University of South Carolina

**Schwarz, Peter M. (1978)**; *Professor Emeritus, Department of Economics;* B.S., City College of New York; M.A., Ohio State University; Ph.D., Ohio State University

**Sealey, Calvin W. (Bill) (1996)**; *Distinguished Professor Emeritus, Department of Finance;* B.A., University of North Carolina at Asheville; M.A., University of Georgia; Ph.D., University of Georgia

**Shaban, Wafaa (2003)**; *Lecturer Emeritus, Department of Mathematics and Statistics;* B.A., Lebanese University; M.A., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Shafer, Douglas S. (1978)**; *Professor Emeritus, Department of Mathematics and Statistics;* B.S., Carson-Newman College; M.S., University of North Carolina at Chapel Hill; Ph.D., University of North Carolina at Chapel Hill

**Shenk, Dena (1991)**; *Professor Emerita, Department of Anthropology;* B.A., State University of New York at Stony Brook; M.A., University of Massachusetts; Ph.D., University of Massachusetts

**Sherlock, Barry G. (1997)**; *Professor Emeritus, Department of Engineering Technology and Construction Management;* B.S.E.E., University of Cape Town, South Africa; M.S.E.E., University of Cape Town, South Africa; Ph.D., Imperial College, University of London

**Sherry, Stanley (Lee) A. (2007)**; *Associate Professor Emeritus, Department of Special Education and Child Development;* B.A., Temple University; M.Ed., Temple University; Ph.D., University of Florida

**Shumaker, James D. (1972)**; *Professor Emeritus, Department of Philosophy;* A.B., Pfeiffer College; M.A., Florida State University; Ph.D., Florida State University

**Siegfried Jr., William D. (1976)**; *Associate Professor Emeritus, Department of Psychology;* B.A., Trinity College; M.A., Long Island University; Ph.D., Ohio State University

**Silverman, Gary S. (2012)**; *Professor Emeritus, Department of Epidemiology and Community Health;* B.A., Claremont McKenna College; M.S., University of California, Berkeley; Ph.D., University of California, Los Angeles

**Simono, Ronald Bernard (1967)**; *Professor Emeritus, Department of Psychology;* B.S., St. Norbert College; M.S., University of Wisconsin; Ph.D., University of Wisconsin

**Simpson, Hoyle Mitchel (1982)**; *Associate Professor Emeritus, Ishwar Aggarwal Department of Physics and Optical Science;* B.A., Pfeiffer College; Ph.D., Clemson University

**Sinclair, Celia B. (1999)**; *Lecturer Emerita, Department of Religious Studies;* B.A., Duke University; M.A., Yale University

**Smith, JaneDiane (1999)**; *Associate Professor Emerita, Department of Special Education and Child Development;* B.S., Pennsylvania State University; M.Ed., University of Pittsburgh; Ph.D., Vanderbilt University

**Smith, William Alexander (1966)**; *Associate Professor Emeritus, Department of Electrical Engineering;* A.A., Charlotte College; B.S., Charlotte College; M.S., Clemson University; P.E.,

**Smith Jr., Clarence E. (1970)**; *Professor Emeritus, Department of Educational Leadership;* B.A., University of North Carolina at Chapel Hill; M.A.T., University of North Carolina at Chapel Hill; Ed.D., University of North Carolina at Chapel Hill

**Snyder, Robert D. (1975)**; *Dean Emeritus, The William States Lee College of Engineering; Professor Emeritus, Department of Engineering Science*; B.S.M.E., Indiana Institute of Technology; M.S.M.E., Clemson University; Ph.D., West Virginia University; P.E.,

**Sofras, Pamela A. (1976)**; *Professor Emerita, Department of Dance;* B.F.A., The Juilliard School; M.Ed., Lehigh University

**Sohn, David (1964)**; *Associate Professor Emeritus, Department of Psychology;* B.A., Brooklyn College; Ph.D., University of Texas at Austin

**Sommer, John W. (1993)**; *Distinguished Professor Emeritus; Professor Emeritus, Department of Geography and Department of Political Science*; A.B., Dartmouth College; A.M., Boston University; Ph.D., Boston University

**St. Clair, Edward B. (1970)**; *Associate Professor Emeritus, Department of Religious Studies;* B.A., George Washington University; B.D., Southeastern Baptist Theological Seminary; Ph.D., Duke University

**Steck, Todd R. (1991)**; *Professor Emeritus, Department of Biological Sciences;* B.S., Allegheny College; M.S., University of Rochester; Ph.D., University of Rochester

**Stephenson, Katherine S. (1986)**; *Associate Professor Emerita, Department of Languages, Cultures, and Translation;* B.A., Texas Christian University; M.A., University of North Carolina at Chapel Hill; Ph.D., University of North Carolina at Chapel Hill

**Stevenson, Thomas H. (1976)**; *Professor Emeritus, Department of Marketing;* B.S.B.A., Syracuse University; M.B.A., Syracuse University; Ph.D., Case Western Reserve University

**Stinnett, Gary ()**; *Associate Vice Chancellor and University Affirmative Action Officer, Human Resources*

**Stivender, Carol (2003)**; *Clinical Professor, Department of Economics;* B.A., Lenoir Rhyne College; M.S., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Strassberg, Roy (2001)**; *Professor Emeritus, Department of Art and Art History;* B.A., State University of New York at Oswego; M.F.A., University of Michigan

**Strawn, Martha Ann (1971)**; *Professor Emerita, Department of Art;* B.A., Florida State University; M.F.A., Ohio University

**Studnicki, James (2006)**; *Professor Emeritus, Department of Epidemiology and Community Health;* B.S., University of Pittsburgh; M.B.A., George Washington University; M.P.H., Johns Hopkins University; Ph.D., Johns Hopkins University

**Sullivan, Shannon (2014)**; *Professor Emerita, Department of Philosophy;* B.A., Trinity University; M.A., Vanderbilt University; Ph.D., Vanderbilt University

**Summerville, Frances Lovenia (1968)**; *Associate Professor and Librarian Emerita, Atkins Library;* B.A., St. Andrews Presbyterian College; M.L.S., Peabody College

**Suther, Judith D. (1979)**; *Professor Emerita, Department of Languages, Cultures, and Translation;* B.A., University of Missouri; M.A., University of Michigan; Ph.D., University of Missouri

**Swartz, Caroline (2006)**; *Clinical Professor Emerita, Department of Economics;* B.S., State University of New York at Fredonia; M.A., Duke University; Ph.D., Duke University

**Swayne, Linda E. (1981)**; *Professor Emerita, Department of Marketing;* B.B.A., Stetson University; M.B.A., Stetson University; Ph.D., North Texas State University

**Swisher, Michael T. (1988)**; *Associate Professor Emeritus, School of Architecture;* A.B., Washington University; M.F.A., Massachusetts College of Art

**Tedeschi, Richard G. (1976)**; *Professor Emeritus, Department of Psychological Science;* B.A., Syracuse University; Ph.D., Ohio University

**Terry, William Scott (1976)**; *Professor Emeritus, Department of Psychological Science;* B.A., Fairfield University; M.S., Yale University; Ph.D., Yale University

**Test, David W. (1983)**; *Professor Emeritus, Department of Special Education and Child Development;* B.A., Eisenhower College; M.A., Ohio State University; Ph.D., Ohio State University

**Testerman, Jane K. (1997)**; *Associate Professor Emerita, Department of Educational Leadership;* B.A., University of North Carolina at Charlotte; M.Ed., University of North Carolina at Charlotte; Ed.S., Appalachian State University; Ed.D., University of North Carolina at Greensboro

**Thiede, Barbara A. (2006)**; *Associate Professor Emerita, Department of Religious Studies;* B.A., University of Illinois at Urbana-Champaign; M.A., University of Missouri; Ph.D., University of Missouri

**Thomas, Herman Edward (1974)**; *Professor Emeritus, Department of Religious Studies;* B.S., North Carolina A&T State University; B.D., Duke University; Th.M., Duke University; Ph.D., Hartford Seminary Foundation

**Thomas, Mary Beth (1980)**; *Professor Emerita, Department of Biological Sciences;* B.A., Agnes Scott College; M.A., University of North Carolina at Chapel Hill; Ph.D., University of North Carolina at Chapel Hill

**Tierney, Barbara G. (1998)**; *Associate Professor and Librarian Emerita, Atkins Library;* B.A., Northwestern University; M.L.S.; M.L.S., University of Michigan

**Tillotson, Joan S. (1973)**; *Associate Professor Emerita, Department of Applied Physiology, Health, and Clinical Sciences;* B.S., State University College of New York; M.A., State University of Iowa; Ph.D., State University of Iowa

**Tite, Winston R. (1980)**; *Associate Professor Emeritus, Department of Art;* B.S., Weber State College; M.F.A., Arizona State University

**Toenjes, Richard H. (1973)**; *Associate Professor Emeritus, Department of Philosophy;* B.A., St. Louis University; M.A., St. Louis University; Ph.D., University of Southern California

**Tolley, Patricia A. (1995)**; *Associate Professor Emerita, Department of Engineering Technology and Construction Management;* B.S.M.E., University of North Carolina at Charlotte; M.S.M.E., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Tong, Rosemarie (1999)**; *Distinguished Professor Emerita, Department of Philosophy;* B.A., Marygrove College; M.A., Catholic University of America; Ph.D., Temple University

**Tranjan, Farid M. (1985)**; *Professor Emeritus, Department of Electrical and Computer Engineering;* B.S., Centenary College of Louisiana; M.S., University of Kentucky; Ph.D., University of Kentucky

**Travis, Jim (1973)**; *Associate Professor Emeritus, Department of Biological Sciences;* B.S., East Texas State College; M.S., East Texas State College; Ph.D., Texas A&M University

**Travis, Lucille L. (2006)**; *Professor Emerita, School of Nursing;* B.S.N., Ohio State University; M.S., Ohio State University; Ph.D., Ohio State University

**Trosch, Louis A. (1969)**; *Professor Emeritus, Department of Finance;* B.A., Bethany College; M.A., George Washington University; J.D., West Virginia University

**Tseng, Hui-Kuan (Alice) (1988)**; *Associate Professor Emeritus, Department of Economics;* B.A., National Taiwan University, Taiwan; M.A., Southern Illinois University; Ph.D., University of Illinois at Urbana-Champaign

**Tsu, Raphael (1988)**; *Professor Emeritus, Department of Electrical and Computer Engineering;* B.S., University of Dayton; M.S., Ohio State University; Ph.D., Ohio State University

**Tyson, Robert K. (1999)**; *Associate Professor Emeritus, Ishwar Aggarwal Department of Physics and Optical Science;* B.S., Pennsylvania State University; M.S., West Virginia University; Ph.D., West Virginia University

**Vainberg, Boris R. (1992)**; *Professor Emeritus, Department of Mathematics and Statistics;* M.Sc., Moscow State University, Russia; D.Sc., Moscow State University, Russia

**Vance, Christine W. (1974)**; *Associate Professor Emerita, Department of Languages, Cultures, and Translation;* C.E.L.G., Universite de Paris et Lille, France; Licence-es-Lettres, Universite d' Alger-Aix-en-Provence, France; Licence-es-Lettres, Paris-Sorbonne University, France; M.A., Vanderbilt University; Ph.D., Vanderbilt University

**VanSledright, Bruce A. (2011)**; *Professor Emeritus, Department of Reading and Elementary Education;* B.A., Calvin College; M.A., Michigan State University; Ph.D., Michigan State University

**Vermillion, Robert (1965)**; *Professor Emeritus, Ishwar Aggarwal Department of Physics and Optical Science;* A.B., King College; M.S., Vanderbilt University; Ph.D., Vanderbilt University

**Wakeman, Shawnee (2008)**; *Clinical Assistant Professor Emerita, Department of Special Education and Child Development;* B.A., Catawba College; M.S.A.D., University of North Carolina at Charlotte; M.Ed., University of North Carolina at Charlotte; Ph.D., University of North Carolina at Charlotte

**Walcott, Wayne A. (1970)**; *Senior Associate Provost Emeritus, Academic Affairs; Associate Professor Emeritus, Department of Earth, Environmental, and Geographical Sciencess*; B.S., Western Michigan University; M.A., University of Illinois at Urbana-Champaign; Ph.D., University of Illinois at Urbana-Champaign

**Walker, Judith A. (1987)**; *Professor Emerita, J. Murrey Atkins Library;* B.A., Montclair State College; M.L.I.S., The Catholic University of America

**Walsh, Thomas (1970)**; *Associate Professor Emeritus, Department of Chemistry;* A.B., University of Notre Dame; Ph.D., University of California, Berkeley

**Walters, David R. (1990)**; *Professor Emeritus, School of Architecture;* B.Arch., Newcastle University, England; M.Arch., Newcastle University, England

**Wang, Chuang (2004)**; *Department Chair and Professor Emeritus, Department of Educational Leadership;* M.A., Xi'an Jiaotong University, China; M.S., Ohio State University; Ph.D., Ohio State University

**Wang, Sheng-Guo (1997)**; *Professor Emeritus, Department of Engineering Technology and Construction Management;* B.S., University of Science and Technology of China, China; M.S., University of Science and Technology of China, China; Ph.D., University of Houston

**Warren-Findlow, Janice (2005)**; *Professor and Chair Emerita, Department of Epidemiology and Community Health;* B.A., Moravian College; M.B.A., Lehigh University; Ph.D., University of Illinois at Chicago

**Watson Jr., Samuel D. (1973)**; *Professor Emeritus, Department of English;* B.A., Wofford College; M.A., University of Virginia; Ph.D., University of Iowa

**Webster, Murray A. (1993)**; *Professor Emeritus, Department of Sociology;* A.B., Stanford University; M.A., Stanford University; Ph.D., Stanford University

**Weekly, James K. (1988)**; *Professor Emeritus, Department of Marketing;* B.S., Indiana University; M.B.A., Indiana University; D.B.A., Indiana University

**Weinstock, Barnet M. (1977)**; *Professor Emeritus, Department of Mathematics;* A.B., Columbia College; Ph.D., Massachusetts Institute of Technology

**West, Betsy (1998)**; *Associate Professor Emerita, School of Architecture;* B.Arch., North Carolina State University; M.Arch., Yale University

**Whaley, Charles R. (1974)**; *Assistant Professor Emeritus, Department of Teaching Specialties;* A.B., Princeton University; M.A.T., University of North Carolina at Chapel Hill; Ph.D., University of Texas at Austin

**White, Richard B. (1983)**; *Professor Emeritus, Department of Special Education and Child Development;* B.A., Miami University; M.S.Ed., Indiana University; Ed.D., Indiana University

**Whitmeyer, Joseph M. (1993)**; *Professor Emeritus, Department of Sociology;* B.S., Wright State University; M.A., University of Washington; Ph.D., University of Washington

**Wichnoski, Bruno J. (1974)**; *Associate Professor Emeritus, Department of Mathematics and Statistics;* B.S., Drexel University; M.S., Tulane University; Ph.D., Tulane University

**Wierzalis, Edward (2002)**; *Clinical Assistant Professor Emeritus, Department of Counseling;* B.S., Pennsylvania State University; M.Ed., Temple University; Ph.D., University of Virginia

**Wiggins, Jr., Casper E. (1999)**; *Distinguished Professor Emeritus, Turner School of Accountancy; B.A., Wofford College*; M.B.A., University of Georgia; M.S., Clemson University; D.B.A., University of Tennessee

**Wihstutz, Volker (1987)**; *Professor Emeritus, Department of Mathematics and Statistics;* Diploma, University of Frankfurt, Germany; Ph.D., University of Bremen, Germany

**Wilkinson, Anthony Barry (1987)**; *Professor Emeritus, Department of Computer Science;* B.Sc., University of Salford, England; M.Sc., University of Manchester, England; Ph.D., University of Manchester, England

**Williams, Janet (2008)**; *Associate Professor Emerita, Department of Art and Art History;* B.A., Middlesex Polytechnic University; M.F.A., Cranbrook Academy of Art

**Wilmoth, Margaret (Peggy) C. (1996)**; *Professor Emerita, School of Nursing;* B.S.N., University of Maryland; M.S., University of Maryland; Ph.D., University of Pennsylvania

**Winecoff, Michael (2001)**; *Associate Dean for Collection Services Emeritus and Associate Professor Emeritus, J. Murrey Atkins Library;* B.A., University of North Carolina at Charlotte; M.L.S., University of North Carolina at Greensboro

**Wong, Peter L. (1988)**; *Associate Professor Emeritus, David R. Ravin School of Architecture;* B.A., University of Washington; M.Arch., University of Pennsylvania

**Wood, Bret A. (2000)**; *Lecturer Emeritus, Department of Applied Physiology, Health, and Clinical Sciences;* B.S., West Virginia University; M.Ed., University of North Carolina at Charlotte

**Wood, Karen D. (1985)**; *Professor Emerita, Department of Reading and Elementary Education;* B.A., Catawba College; M.A., Appalachian State University; Ed.S., Appalachian State University; Ph.D., University of Georgia

**Wood, Wendy M. (1994)**; *Associate Professor Emerita, Department of Special Education and Child Development;* B.A., Lynchburg College; M.Ed., Virginia Commonwealth University; Ph.D., Virginia Commonwealth University

**Woodward, James H. (1989)**; *Chancellor Emeritus and Professor Emeritus, Department of Civil and Environmental Engineering;* B.S.A.E., Georgia Institute of Technology; M.S.A.E., Georgia Institute of Technology; Ph.D., Georgia Institute of Technology; M.B.A., University of Alabama at Birmingham

**Wright, Hazel Drye (1966)**; *Assistant Professor Emerita, Department of Mathematics;* B.S., Appalachian State Teachers College; M.A., Wake Forest College

**Yon, Maria G. (1987)**; *Associate Professor Emerita, Department of Reading and Elementary Education;* B.S., Concord College; M.A., West Virginia University; Ed.D., Virginia Polytechnic Institute and State University

**Young, David T. (1985)**; *Professor Emeritus, Department of Civil and Environmental Engineering;* B.S.C.E., Clemson University; M.S.C.E., Clemson University; Ph.D., Virginia Polytechnic Institute and State University

**Zadrozny, Wlodek (2013)**; *Professor Emeritus, Department of Computer Science;* M.S., University of Warsaw; Ph.D., Polish Academy of Sciences

**Zellars, Kelly L. (2000)**; *Professor Emerita, Department of Management;* B.A., University of Notre Dame; M.B.A., University of Notre Dame; M.S., University of Wisconsin-Milwaukee; Ph.D., Florida State University

**Zhang, Jian X. (1996)**; *Associate Professor Emeritus, Department of Biological Sciences;* M.D., Chengdu Sport University, China; M.A., Springfield College; Ph.D., University of South Carolina

**Zhu, You-lan (1990)**; *Professor Emeritus, Department of Mathematics and Statistics;* Ph.D., Qinghua University, China

**Ziegert, John C. (2010)**; *Professor Emeritus, Department of Mechanical Engineering and Engineering Science;* B.S.M.E., Purdue University; M.S., Northwestern University; Ph.D., University of Rhode Island

**Zimmermann, Gerda Anna Maria (1974)**; *Associate Professor Emerita, Department of Dance;* Diploma, School for Gymnastics, Germany; License, School for Theater, Germany; License, School of Fine Arts, Germany

**Zuber, Richard A. (1978)**; *Professor Emeritus, Department of Economics;* B.A., Wake Forest University; M.A., University of Kentucky; Ph.D., University of Kentucky

# *Glossary* of Academic Terminology

# Glossary of Academic Terminology

## -123-

**49ers –** The official name for student athletic teams at UNC Charlotte.

**49er Card –** The ID Card that proves a student is a member of the campus community and entitled to certain services. It is required to check out materials, obtain services, and utilize facilities across campus. It also allows students to access their residence, obtain meals, and make purchases wherever the 49er Account is accepted.

## -A-

**Academic advising –** A meeting between a student and an advisor to discuss the student's academic plan of study, course selections prior to registration, and/or career plans.

**Academic bridge program** - A postsecondary school program that helps students transition from high school to a university.

**Academic calendar** – An official list of dates and deadlines found at the beginning of this *Catalog* and on the website for the Office of the Registrar. The academic calendar specifies the dates for semesters and terms, enrollment periods, examination periods, holidays, periods classes are not in session, and commencement.

**Academic career** – The period during which a student is working at an institution toward completion of one or more degrees.

**Academic discipline** – A subject area of study (e.g., English, marketing, psychology).

**Academic Petition –** An electronic form by which students request to be granted an academic exception because their extenuating circumstances prevent them from following established rules, policies, and procedures.

**Academic probation –** A status resulting from unsatisfactory academic work; a warning that the student must improve academic performance or be suspended after a specific period of time.

**Academic rank –** the rank of a faculty member, such as professor, associate professor, assistant professor, or lecturer. *(See individual listings for details.)*

**Academic record –** Official transcript.

**Academic standing –** The scholastic standing of a student based on their grade point average (GPA).

**Academic year –** The period of formal academic instruction, extending from August through July. It is divided into Fall, Spring, and Summer semesters.

**Access –** Ensuring equal opportunity for education, particularly for students from historically underrepresented populations and students with disabilities.

**Accommodations –** Disability Services counselors meet with qualified students to determine and provide reasonable and appropriate accommodations that support the student's educational goals.

**Accreditation –** UNC Charlotte is accredited by the **S**outhern **A**ssociation of **C**olleges and **S**chools Commission on Colleges (SACSCOC). SACSCOC is the recognized accrediting body in the eleven U.S. Southern states (Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas and Virginia) and in Latin America for those institutions of higher education that award associate, baccalaureate, master's, or doctoral degrees. Accreditation is certification that an institute of higher education meets a set of criteria established by SACSCOC.

**Accrediting Body, Accepted** - The following are accepted accrediting bodies: Accrediting Commission for Community and Junior Colleges (ACCJC) Western Association of Schools and Colleges (WASC), Higher Learning Commission (HLC), Middle States Commission on Higher Education (MSCHE), New England Commission of Higher Education (NECHE), Northwest Commission on Colleges and Universities (NWCCU), Southern Association of Colleges and Schools Commission on Colleges (SACSCOC), and WASC Senior College and University Commission (WSCUC).

**ACT –** A test published by **A**merican **C**ollege **T**esting which measures a student's aptitude in mathematical and verbal comprehension and problem solving.

**Add/Drop –** A designated time period at the beginning of each semester when a student may add or drop a course without penalty. At UNC Charlotte, the Add/Drop period runs through the 6th business day of the Fall and Spring semesters, and through the 2nd business day for Summer full and half terms.

**Adjunct faculty –** Part-time or temporary faculty member. It may also denote a faculty member from another academic department whose research or teaching interests overlap substantially with those of the appointing department.

**Admission to Candidacy-** The period in a doctoral student's studies when they are deemed ready to undertake research resulting in a dissertation or scholarly project.

**Admissions and Enrollment Counselor –** A person working in the Office of Undergraduate Admissions or Office of Graduate Admissions who assists prospective students by providing information on admissions requirements, academic programs, and the application process.

**Advanced Placement (AP) –** Standardized courses administered by The College Board offered in high school, the completion of which may result in credit for some of the courses normally required for an undergraduate degree. Awarding credit based on AP is granted to a student based on prior study or experience (indicated by the student's performance on the AP examination).

**Advisor** – For undergraduate students, a department or college-based faculty or staff member who meets with students each semester to discuss curricular choices and progress toward achieving educational goals. For graduate students, typically the Chair of the student's Thesis or Dissertation committee or academic mentor.

**Alma mater –** The school from which one has graduated, as in "My alma mater is The University of North Carolina at Charlotte."

**Alumna/Alumnus (Alumni) –** A female/male (group) who attended or graduated from a particular college or university.

**Annotated bibliography –** A list of citations of books, articles, and documents followed by a brief descriptive paragraph. The purpose of the annotation or description is to inform the reader of the relevance, accuracy, and quality of the sources cited.

**Appeal** - A formal, written narrative to request reinstatement following suspension or termination.

**Articulation agreement –** A written agreement listing courses at one educational institution that are equivalent to courses at another educational institution. Articulation agreements facilitate the smooth transition of students through the secondary, community college, and university educational systems.

**Assessment –** The act of evaluation or appraisal.

**Assignment –** Required reading and course work to be completed outside of the classroom as determined by instructors. Many instructors list assignments on a syllabus, which is distributed at the beginning of the semester. Other instructors give assignments during class.

**Assistant Professor** – usually the entry-level rank for a faculty member who holds a doctorate, although this depends on the institution and the field.

**Associate Professor** – the mid-level rank of a faculty member. It usually indicates that the individual has been granted tenure at the institution.

**Associate's degree –** A degree traditionally awarded by community or junior colleges after two years of study, or completion of 60 to 64 credit hours.

**Asynchronous course** - Online course modality where students access materials and complete assignments without any required real-time interaction with the instructor or other students.

**Attempted hours** - The credits received from courses completed at UNC Charlotte, regardless of grade earned, courses from which students withdrew (W or WE), and courses that were repeated (even if additional credit was not earned).

**Audit –** Enrolling in a course on an audit basis means the course will not count for credit or impact GPA. Registration for audit requires the permission of the instructor.

## -B-

**Bachelor's degree or baccalaureate –** The degree of Bachelor of Arts (B.A.) or Bachelor of Science (B.S.), typically requiring a minimum of 120 hours of specified course work.. A bachelor's degree is comprised of General Education courses, a major program(s), elective courses, and, in some cases, a minor program(s), and, in general, is completed in four years.

**Blue book –** A booklet (often with a blue cover, where it derives its name) that contains lined paper for writing essay test answers.

**Bridge program –** See *Academic bridge program*.

**Bursar** – The official at the University who oversees the office that provides quality account management service to students, parents, and alumni by proactively assisting them in meeting their financial responsibilities for attendance.

## -C-

**Cambridge International Examinations –** Standardized courses administered by Cambridge Assessment International offered in high school, the completion of which may result in credit for some of the courses normally required for an undergraduate degree. Awarding credit based on Advanced (A-Level) or Advanced Subsidiary (AS-Level) examinations is granted to a student based on prior study or experience (indicated by the student's performance on the A- or AS-level examinations).

**Campus –** The area where the main buildings of UNC Charlotte are located, both in University City (main campus) and Center City (Dubois Center).

**Catalog** – A resource of all academic policies and procedures, college and degree requirements, faculty, and course descriptions. UNC Charlotte has both an *Undergraduate Catalog* and *Graduate Catalog*.

**Catalog year** – The year during which the regulations of a specific edition of the catalog apply.

**Certificate –** A structured set of professionally oriented courses designed to provide recognition that the student has completed coursework in an applied area of focus. For degree-seeking students, a certificate program may either complement or be concurrent with a traditional program of study. The certificate appears on the official transcript.

**Certification** - An industry-recognized credential or designation that is obtained once the student has successfully passed a certification exam. Certification differs from licensure in that certification is a validation of

specific industry-valued competencies and not a legal requirement for practicing a profession.

**CFNC –** College Foundation of North Carolina. A comprehensive website used for applying to colleges, exploring career opportunities, and applying for state and federal aid.

**Challenge exam** - A departmental or institutional exam used to determine if a student's subject matter proficiency is equal to or greater than the corresponding proficiency the student would have achieved had they completed the corresponding course.

**Chancellor –** The chief executive officer of UNC Charlotte. At some universities, this position is referred to as *president*. To date, UNC Charlotte has had six chancellors.

**Chancellor's List** – The top honors list which recognizes undergraduate students with outstanding records of academic performance (a GPA of 3.8 or greater) and who meet all other criteria. For details, see the Degree Requirements and Academic Policies section of this *Catalog.*

**Class standing –** Refers to an undergraduate student's official year in school - Freshman, Sophomore, Junior, or Senior – and is based on the number of earned credit hours.

**Classification** – Level of progress toward a degree based on the number of earned semester/credit hours.

**Clinical faculty** – A part-time teaching position with limited research responsibilities.

**College –** An academic unit of the University. Each of the seven discipline-based colleges at UNC Charlotte represents an organization of related departments and/or schools.

**College-Level Examination Preparation Program (CLEP)** - A program that allows individuals to earn college credit by demonstrating their knowledge of introductory-level college subjects through standardized exams.

**College-level learning** - Knowledge, skills, and competencies equivalent to those expected of a student who successfully completes the corresponding institutional course.

**Colloquium –** A gathering of scholars to discuss a given topic over a period of a few hours to a few days.

**Commencement** *(also known as Graduation)* – A formal ceremony in which the University recognizes degree candidates at the end of each Fall and Spring semester, pending receipt of satisfactory final grades.

**Commencement Marshals –** At each commencement ceremony, the University honors the juniors with the highest grade point averages by inviting them to serve as the marshals who lead the processions of graduates, faculty members, and the platform party.

**Community college –** A two-year traditional school, offering programs leading to an Associate's degree and, typically, many noncredit courses for community members not seeking a degree. Also called *junior college*.

**Concentration** – A structured plan of study within a major. *(For example, Public Relations is a concentration within the Communication Studies undergraduate major; Children's Literature is a concentration within the M.A. in English graduate program.)* The number of credit hours for a concentration varies, but is included within the credit hours for the major. The concentration appears on the official transcript.

**Contact hours** – The number of hours a class meets per week.

**Continuing education course (or Professional Development) -** A short course or certificate offered for professional development or personal enrichment that does not provide college credit.

**Continuous Registration** - Enrollment in coursework or research credit every semester without interruption until graduation.

**Convocation –** The University Convocation is a gathering of senior administration, faculty, administrative staff, and students to hear statements about the major long-term goals and values of the campus, as well as the major immediate plans and issues confronting UNC Charlotte for the upcoming year, as perceived by the Chancellor, the Provost, and the Faculty President. It is hoped that these presentations will help build a greater shared understanding of the mission of the University and the challenges confronting it. The University Convocation is held at the beginning of the academic year. See also *New Student Welcome.*

**Core courses –** Required courses in a major program.

**Corequisite** – Specific conditions, requirements, or courses that must be completed while taking another course (i.e., a lab).

**Course** – A specific subject studied within a limited period of time. Courses may utilize lectures, discussion, laboratory, seminar, workshop, studio, independent study, internship, or other similar teaching formats to facilitate learning.

**Course load –** Number of credit hours for which a student is enrolled during a semester.

**Course number –** The four-letter and four-digit identification code that identifies each course taught at the University, such as ENGL 2126 or PSYC 8151.

**Course overload –** Defined at UNC Charlotte as over 18 credit hours for undergraduates and over 12 credit hours for graduates during full terms. Within half terms, it is defined as over 7 credit hours. Approval is required to take an overload.

**Course Program of Study (CPOS)** – Federal requirement from the U.S. Department of Education that allows financial aid to apply only to coursework that counts toward a student's declared degree program.

**Course sections –** Course numbers may be divided when classes also meet in discussion sections, or when a course number has sections pertaining to different topics under the same heading. For instance, a course called Architecture Topical Studio may have section 001 – Cycloramic Models and section 002 – Building Envelopes.

**Course title** – The name of a specific course that indicates subject and content. *Introduction to Creative Writing* is the course title of ENGL 2126; *Behavior Disorders* is the course title for PSYC 8151.

**Coursework** - A specified amount of work undertaken in a course which leads to its completion; also, the courses taken to attain a degree in a specified program.

**Credit course –** A course with specified learning goals which the student is required to meet in order to receive a grade. The course may be applied toward the fulfillment of degree requirements at the University.

**Credit for prior learning (CPL)** - Curriculum credit awarded for college-level learning obtained through prior learning experiences other than curriculum coursework.

**Credit/Semester hours** – An amount of work represented in intended learning outcomes and verified by evidence of student achievement. UNC Charlotte adheres to the Carnegie unit, which is a nationally recognized equivalency that consists of not less than:

1. 750 minutes of classroom or direct faculty instruction and a minimum of 1500 minutes of out-of-class student work for one semester hour of credit. Each credit hour corresponds to 50 minutes per week of classroom or direct faculty instruction and a minimum of 100 minutes of out of class work per week for a 15 week semester, or the equivalent amount of work over a different amount of time, whether instruction is delivered face to face, or in a hybrid or distance mode and regardless of the type of academic work leading to the award of credit hours, such as lecture, seminar, internship, practica, studio, to name a few. Regardless of the length of term, the standard of 750 minutes of contact minutes and 1500 minutes of out-of-class work for each credit hour remains the same.
2. 1500 minutes of direct faculty instruction for one semester hour of credit for a lab course.

**Critical thinking –** The practice of thinking things through, in which a student must carefully describe something (an event, a book, a person, etc) and evaluate it according to some relevant criterion, considering significant alternatives. Critical thinking is a core component of *liberal education* and of the *general education curriculum.*

**Cross-Listed Course –** A single course which is simultaneously listed in the schedule of course offerings by one or more academic departments. They share the same meeting times, room, instructor(s), and curriculum. Therefore, ideally, they should also have the same course title. Students may only receive credit for the single section of the cross-listed course for which they are registered. Credit will not be awarded for a course where credit has already been awarded for its cross-listed equivalent.

**Cum Laude –** Honorary recognition of the success of a graduating student. Translates to "With Honor." For UNC Charlotte, it requires a cumulative GPA of at least 3.4, but less than 3.7.

**Curriculum –** A program of courses that meets the requirements for a degree in a particular field of study.

## -D-

**DBA** - The Doctor of Business Administration is a professional degree taught in an executive format designed to prepare graduates for leadership positions in organizations and teaching careers in academia.

**Dean –** The highest authority within an academic division of study. An Academic Dean heads each College. In addition to the academic deans, there is also a Dean of Students within the Division of Student Affairs.

**Dean's List –** An honors list which recognizes undergraduate students who earn a grade point average of at least 3.4 and not more than 3.79 and meet all other criteria. For details, see the Academic Regulations section of this *Catalog.*

**Deferment –** The postponing of a fee or tuition, which will be paid at a later date.

**Degree –** Diploma or title awarded to a student who completed a prescribed course of study.

**Degree program –** An organized sequence of courses that leads to the awarding of a college degree at the undergraduate or graduate level. Sometimes referred to as *Curriculum*.

**Degree requirement –** A set of requirements, which a student must fulfill before they graduates.

**Department/School –** A unit within a college representing a discipline. For example, the Department of English is in the College of Humanities & Earth and Social Sciences (CHESS), and the School of Nursing is in the College of Health and Human Services.

**Department chair –** The faculty member in charge of an academic department of the university.

**Directory Information** - Information in a student's education record that would not generally be considered harmful or an invasion of privacy if disclosed. At UNC Charlotte, directory information consists of the student's name, major field of study, dates of attendance, enrollment status, degrees and awards (including scholarships and distinctions) received; and county of residence for award, scholarship, or distinction recipients. See the Family Educational Rights and Privacy Act (FERPA) section of this Catalog for more details.

**Disability** – The physical and/or learning challenge -- permanent or temporary – of a student that may impact their academic plan. Accommodations are provided for students with documented disabilities.

**Discipline** – An area of study representing a branch of knowledge, such as psychology.

**Dismissal (Academic)** - Administrative cancellation of enrollment for failure to make satisfactory academic progress following an initial program probation or suspension. Students who are suspended from a graduate program and are denied re-admittance through the suspension appeal process are considered dismissed.

**Dissertation –** The major research project normally required as part of the work for a doctoral degree. Dissertations are expected to make a new and creative contribution to the field of study, or to demonstrate one's excellence in the field.

**Dissertation Chair** – A graduate faculty member responsible for directing a doctoral student's dissertation research. This may or may not be the student's academic advisor.

**Distance Education/Distance Learning** - Education that uses one or more types of technology to deliver instruction to students who are separated from the instructor and to support regular and substantive interaction between the students and the instructor synchronously or asynchronously. The following types of technology may be used for distance instruction:

- Internet;
- Satellite or wireless communication; and
- Audio and video conferencing

(34 CFR 600.2 "Distance education" as summarized by the Integrated Postsecondary Education Data System [IPEDS])

For fee charging purposes in the UNC System, a distance education program is one designed to deliver 80 percent or more of the direct instruction through distance education or off-campus, as defined in Section 400.1.1[R](II)(b). There may be a requirement for the student to attend the main campus for a portion of the program, but that requirement is minimal. (See UNC Policy Manual 1000.1.2[IV][A])

**DNP** - The Doctor of Nursing Practice is a terminal degree designed to prepare graduates to analyze systems of care and provide transformational leadership to improve patient safety, quality of care, and implement evidence-based culturally competent care practices.

**Doctoral degree –** The most advanced degree, awarded following additional study, often after completion of a master's degree.

**Double major –** Studying simultaneously for two majors, fulfilling the course requirements for both majors.

**Drop/Add** – *See Add/Drop.*

**Dual/joint degree** – Involves a student's working for two different University degrees in parallel, either at the same institution or at different institutions (sometimes in different countries), completing them in less time than it would take to earn them separately. The two degrees might be in the same subject area (especially when the course is split between countries), or in two different subjects.

## -E-

**Early Entry** - Accelerated program for students who begin graduate study during their undergraduate senior year.

**Earned hours** - The credits received from courses successfully completed at UNC Charlotte.

**Ed.D.** - The Doctor of Education is a terminal degree designed to prepare educational administrators who can assume mid-level and senior-level leadership positions in public school and postsecondary settings.

**Elective course –** A course selected at a student's discretion. A *restricted elective course* is a course which must be chosen from a stated group/list of courses to satisfy the program requirements. An *unrestricted elective course* may be in any subject, and may be selected from any course for which the student has the proper prerequisites.

**Embargo** - In academia, an "embargo" is a restriction placed on research, typically a thesis or dissertation, to be temporarily withheld from publication.

**Emeritus faculty** – A member of the faculty who has retired but retains the honorary title that corresponds with their last held position at the University.

**Equivalency examination –** An examination designed to demonstrate knowledge in a subject where the learning was acquired outside a traditional classroom. For example, a student who learned management skills while working at a restaurant could take an equivalency exam, if offered, to earn credit in small business management.

**Essay –** A method of examination, or homework, by which a student presents their knowledge of the subject by writing a composition.

**Equivalency examination (also Challenge Exam or Credit by Exam)** - A departmental or institutional exam used to determine if a student's subject matter proficiency is equal to or greater than the corresponding proficiency the student would have achieved had they completed the corresponding course.

**Experiential Learning** - An engaged learning process whereby students "learn by doing" and by reflecting on the experience. Experiential learning may include community service, service-learning, undergraduate research, project-based learning, study abroad, and culminating experiences such as internships, student teaching, and capstone projects.

**Extenuating circumstances –** Personal situations that, upon administrative approval, allow students to withdraw late (if necessary) and to receive "WE" grades.

**Extracurricular activities –** Activities pertinent to student life, but not part of the regular classroom study (e.g., athletics, publications, and social organizations). Also referred to as *co-curricular activities*.

## -F-

**Face-to-face** - A learning modality where students and instructor meet in person, such as in a classroom. This term can describe a course or a program.

**Facilitator –** The person in an interactive classroom who assists the instructor or students with distribution of handouts, collection of tests and evaluations, technical and troubleshooting issues, etc.

**Faculty –** All persons who hold Professorial Rank (Professor, Associate Professor, and Assistant Professor) or a Special Faculty Appointment (Visiting Professor, Adjunct Professor, Instructor, Assistant Professor (Library), Assistant Professor (Military), Lecturer, Assistant Research Professor, or Artist-in-Residence).

**FAFSA** (**F**ree **A**pplication for **F**ederal **S**tudent **A**id) – A form that all students applying for financial assistance are required to complete in order to determine eligibility for financial aid. This form is available from the Office of Student Financial Aid.

**FAQ – F**requently **A**sked **Q**uestions. On the Internet and in print, information sources may provide a list of FAQs to assist newcomers in learning more on their own.

**Fees –** An amount of money charged by institutions (in addition to tuition) to cover the costs of certain services (health services, athletic center, student activities, registration, parking, use of lab equipment or computers, etc.).

**FERPA –** The **F**amily **E**ducational **R**ights and **P**rivacy **A**ct (FERPA) is a Federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education.

**Final exam –** The last, and often the most comprehensive, examination of the entire semester's course material.

**Financial aid/assistance –** Money available from various sources to help students pay for college. Students must establish eligibility. Funds can be competitive.

**Financial aid package –** Total amount of financial aid given to a student. Federal and non-Federal aid such as grants, loans, and work-study are combined to help meet the student's need.

**Financial need –** In the context of student financial aid, financial need is equal to the cost of education (estimated costs for college attendance and basic living expenses) minus the expected family contribution (the amount a student's family is expected to pay, which varies according to the family's financial resources).

**Fraternity –** A social organization, most often for male students, with specific objectives, rules and regulations.

**Full-time student –** An undergraduate student with a course load of at least 12 credit hours, as defined by eligibility for federal financial aid, or a graduate student with a course load of at least 9 credit hours. However, undergraduate students need to average a minimum course load of 15 credit hours per semester to graduate within four years.

## -G-

**General Education Requirements** - These courses provide undergraduate students, regardless of their majors, with the foundations of a *liberal education*. For details, see the General Education Program section of the *Undergraduate Catalog*.

**Good Academic Standing** – Meeting the cumulative GPA requirements for a semester.

**Good Academic Standing Warning** – The result of unsatisfactory work during the course of a semester; a warning that the student should improve their performance.

**GPA (G**rade **P**oint **A**verage**) –** The grade point average for an undergraduate student is determined by adding all accumulated quality points together, and then dividing by the total number of GPA hours the student has attempted, excluding those for which the student received average, only those credits attempted at UNC Charlotte are included. Refer to the example below.

**Example of Transcript:**

| Subject | Course | Grade | Credit Hours | Quality Points |
|---|---|---|---|---|
| AMST | 2050 | P | 3.00 | 0.00 |
| CHEM | 1251 | F | 3.00 | 0.00 |
| CHEM | 1251L | F | 1.00 | 0.00 |
| ENGR | 1201 | C | 2.00 | 4.00 |
| LBST | 2101 | C | 3.00 | 6.00 |
| MATH | 1241 | C | 3.00 | 6.00 |
| WRDS | 1101 | B | 3.00 | 9.00 |

**Term Totals (Undergraduate)**

| | Attempt Hours | Passed Hours | Earned Hours | GPA Hours | Quality Points | GPA |
|---|---|---|---|---|---|---|
| Current Term | 18.00 | 14.00 | 14.00 | 15.00 | 25.00 | 1.66 |
| Cumulative | 18.00 | 14.00 | 14.00 | 15.00 | 25.00 | 1.66 |

**Example of GPA Calculation**:
GPA = Quality Points/GPA Hours; 25/15=1.66

**Grades –** Evaluative scores provided for each course, and often for individual assignments, examinations, or papers written for that course. There are letter grades (usually A, B, C, D, F) and number grades (usually percentages from 0% to 100%, or on a scale of 0.0 to 4.0). Some undergraduate courses use a *pass/no credit* system with no grades; some graduate courses use a *pass/unsatisfactory* system with no grades.

**Graduate assistantship-** Employment whereby a graduate student receives financial support for their contributions to the teaching, research, and service missions of the University.

**Graduate Faculty Representative -** A member of the doctoral student's advisory committee appointed by the Graduate School that assures that the doctoral student is treated fairly and impartially by his or her advisory committee, and assure that University standards and policies are upheld.

**Graduate School -** The academic college of which all graduate students belong, responsible for the administration of all graduate programs.

**Graduate studies –** Coursework beyond the bachelor's degree that leads to a graduate certificate, or a master's, professional, or doctoral degree.

**Graduation** *(also known as Commencement)* – A formal ceremony in which the University awards degrees to graduating students at the end of each Fall and Spring semester, pending receipt of satisfactory final grades.

**Graduation with Distinction** – Graduating with honors. To be eligible to graduate with distinction, a student must have a certain grade point

average computed on at least 48 credit hours of credit completed in residence at UNC Charlotte. *(See Summa Cum Laude, Magna Cum Laude, and Cum Laude)*

**Grant –** A sum of money given to a student for the purposes of paying at least part of the cost of college. Grants and scholarships do not have to be repaid.

**GRE (Graduate Record Examination)** – A standardized test that is an admissions requirement for many graduate programs. The exam aims to measure verbal reasoning, quantitative reasoning, analytical writing, and critical thinking skills that have been acquired over a long period of time and that are not related to any specific field of study. The GRE General Test is offered as a computer-based exam administered by selected qualified testing centers.

## -H-

**Hold Flags –** *See Registration hold flags.*

**Homecoming** – An annual event held by the University to honor alumni.

**Honors –** A special rank or distinction conferred by the University upon an undergraduate student for excellence in scholarship (based on their GPA). When referring to a course of study, an honors course is for academically talented, enthusiastic, and motivated undergraduate students.

**Hooding** - The Doctoral Hooding Ceremony is a tradition of individually recognizing graduating doctoral students through a separate event.

**Hybrid** - A learning modality that combines multiple learning modalities, such as face-to-face and online, online asynchronous and online synchronous, or some other combination. This term can describe a course or a program.

## -I-

**In-residence -** For degree-seeking students, a residency requirement indicates the number of credit hours that must be completed through the University in order to graduate.

**Incomplete grade –** An "I" (incomplete grade) may be assigned by a faculty member to a student who carried coursework satisfactorily until near the end of the semester, but who was then unable to complete the course, possibly including the final exam. If the student does not remove the "I" within 12 months, the "I" will be changed to "F," "U," or "N," as appropriate. See the Degree Requirements and Academic Policies section of this *Catalog* for complete details.

**Independent study –** A method of receiving credit for study or research independent of the assignments of any specific course, but supervised and graded by a faculty member.

**Industry or corporate experience** - Evaluation of non-collegiate instructional programs, such as, but not limited to, those for apprenticeships and other workplace trainings that demonstrate competency.

**Interdisciplinary** – A course or program of study involving two or more major areas/departments. For example, Women's and Gender Studies is an interdisciplinary program offering a minor within the College of Humanities & Earth and Social Sciences (CHESS).

**International Baccalaureate (IB)** – Standardized courses offered in high school, the completion of which may result in credit for some of the courses normally required for an undergraduate degree. Awarding credit based on IB is granted to a student based on prior study or experience (indicated by the student's performance on IB examinations).

**Internet course –** A web-based course completed online. Also called an *online course*. May or may not be self-paced.

**Internship –** A work experience, paid or non-paid, that provides students with practical experience, most often in their field of study.

**Intramural/fitness/sport clubs –** Programs designed to encourage students to participate in a variety of competitive, instructional, and recreational organized sports activities.

## -J-

**Job fair –** Also known as a *career fair* or *career expo*, it provides a place for employers and recruiters, to meet with student job seekers, typically for entry-level positions. Fairs usually include company or organization tables or booths where résumés may be collected. Occasionally, it is also where students may perform their first interviews with a prospective employer.

**Juris Doctor (J.D.)** – A professional doctorate and first professional graduate degree in law.

## -L-

**Laboratory (lab) –** A classroom where students apply material in small-group situations that include experiments, assignments, and projects. A lab course typically has an "L" after the course number.

**Learning communities –** Small groups of new students and faculty who share common interests. Students enroll in two or more of the same courses and, in many cases, live together in the same residence hall.

**Learning strategies –** Activities that help people use their own learning style to best approach new learning.

**Leave of Absence** – Graduate students only may seek a leave from their studies for up to 12 months. During this time, they may not use any University resources.

**Lecture –** A teaching method in which the professor presents information to the students who take notes, ask questions, and have dialogue with the professor.

**Liberal Education –** The foundation of the baccalaureate degree in the United States. *Liberal education* strives to make students liberally

educated citizens of the world by emphasizing knowledge across disciplines, critical thinking, and application of content. The *General Education Requirements* work toward this end.

**Licensure** - A legal status granted by a government entity that provides permission to practice a profession. Licensure restricts practice of the profession to individuals who have met specific qualifications in education, professional experience, and/or have successfully passed an examination.

**Loan –** A type of financial aid that is available to students. An education loan must be repaid. In some cases, payments do not begin until the student finishes school.

**Lower division course –** A course that is intended for freshman and sophomore level students (typically 1000 and 2000 course numbers) that contains introductory content.

## -M-

**Magna Cum Laude –** High honorary recognition of the success of a graduating student. Translates to "With Great Honor." For UNC Charlotte, it requires a cumulative GPA of at least 3.7, but less than 3.9.

**Major –** A degree-seeking student's primary field of study. A major is a structured plan of study requiring a minimum of 30 credit hours. It must be feasible for undergraduate students to complete degree requirements within 120 credit hours (except for programs that have applied for and received a waiver to exceed 120 credit hours from the UNC Charlotte Board of Trustees). The major appears on the official transcript.

**M.A./M.S. –** See *Master's degree.*

**Master's degree –** An advanced degree (e.g., Master of Arts [M.A.], Master of Science [M.S.]) awarded by a university after completion of studies beyond a bachelor's degree.

**Matriculated student –** A student who has been accepted for admission to the University, has registered in a curriculum, and is pursuing courses toward a degree or certificate. See also *Non-matriculated student.*

**Matriculation** – The first enrollment following admission as a student.

**Meta-Major** – Collections of academic majors that have related courses. Undergraduate students within the University College will have several Meta-Major options to choose from. Meta-Majors provide a clear pathway to declaring a major and help make connections between academics and different career tracks.

**Micro-credential** - A small, specialized recognition that demonstrates a person's skills, knowledge, or accomplishments in a specific area. These credentials reflect narrow, well-defined competencies and are designed to be more flexible, accessible, and shorter than traditional degree programs. Completion of a micro-credential is often recognized with a digital badge as a validated indicator of an accomplishment, skill, quality, or interest.

**Mid-term exam –** An (often major) examination given in the middle of the semester that tests the student's knowledge of information taught in the course from the beginning of the course up until the time of examination.

**Military education and training** - Learning gained through military training and experience including, but not be limited to, recruit training, military occupational specialty (MOS) training and education, Defense Language Institute foreign language coursework and exams, Community College of the Air Force (CCAF) coursework, College-Level Examination Program (CLEP), and the DANTES Standardized Subject Test (DSST).

**Minor –** An undergraduate minor represents an optional, secondary field of study for a degree-seeking undergraduate student; no undergraduate student may declare a major and a minor in the same discipline. An undergraduate minor is a structured plan of study requiring a minimum of 15 credit hours and no more than 29 credit hours exclusive of student teaching. A minor should require significant additional coursework beyond what is already required for the major. The minor appears on the official transcript.

**Multiple-choice examination –** An examination in which questions are followed by two or more answers, from which a student selects the correct answer.

**My UNC Charlotte –** One-stop shopping for student services via the Web. It combines various systems, user interfaces, and technical solutions already available to the UNC Charlotte community in a single, consistent web-based interface. Students should use My UNC Charlotte online at my.charlotte.edu to access web-enabled student services, course information, e-mail, and calendar scheduling.

## -N-

**New Student Welcome** - An event dedicated to welcome and introduce new undergraduate students (freshmen and transfers) to the UNC Charlotte academic community. During the event, students learn about UNC Charlotte's traditions, mission, and values that drive the niner spirit.

**Niner Central** – UNC Charlotte's place to go when you don't know where to go. Students can get answers to questions and receive services for all topics related to financial aid and billing, registration, transcripts, student accounts, academic records, and more.

**Niner Nation –** The collective UNC Charlotte student body.

**Niner Nation Family –** The collective parent and family members of UNC Charlotte students.

**Noble Niner –** The honor code created by the Student Government Association which solidifies the high standard of morals, principles, and integrity that all students should strive to uphold in order to bolster the growing reputation of excellence at UNC Charlotte.

**Non-Credit** - A short course or certificate offered for professional development or personal enrichment that does not provide college credit.

**Non-matriculated student –** A student who has been accepted for admission to the University, but not yet enrolled. See also *Matriculated student.*

## -O-

**Objective test –** An examination in which questions requiring a very short answer are posed. It can be multiple choice, true/false, fill-in-the-blank, etc. The questions are related to facts (thus objective) rather than to opinions (subjective).

**Online** - A learning modality which uses the internet to deliver instruction asynchronously or synchronously. This term can describe a course or a program.

**Online courses –** Courses which are taught and taken either partially or wholly over the Internet.

**Open-book examination –** A student is permitted to use their textbook, and often classroom notes, during the exam.

**Oral examination –** A student answers questions by speaking rather than by writing.

**Orientation –** An organized gathering, held at the beginning of every semester, which provides useful information to new students to acclimate them with the college campus and student life.

## -P-

**Part-time student –** An undergraduate student with a course load of less than 12 credit hours, or a graduate student with less than 9 credit hours. See also *Full-time student.*

**Pass/no credit course –** A course that rates a student's performance on a pass/no credit basis, rather than on grades.

**Ph.D. –** The Doctor of Philosophy a type of doctoral degree awarded by a university to students who have completed studies beyond the bachelor's and/or master's degrees, and who have demonstrated their academic ability in oral and/or written examinations and through original research presented in the form of a dissertation (thesis).

**Placement test –** An examination used to test a student's academic ability in a certain subject so they can be placed in a course at an appropriate level. In some cases, students may get course credits after scoring high on a placement test.

**Plagiarism –** Passing off someone else's work as your own or using the intellectual property of someone else without giving proper credit. Students must follow certain guidelines to properly acknowledge the use of other people's ideas or words in their work (unless such information is recognized as common knowledge). This is considered a serious offense at every institution, and is subject to disciplinary action that may include failure in a course and/or dismissal from the University.

**Pop quiz –** A quiz that the instructor has not previously informed the students about.

**Portfolio assessment** - The evaluation of a portfolio for life and work experiences by subject matter experts designated by the constituent institution in its local policy to determine whether a student is awarded credit for prior learning.

**Postbaccalaureate -** A student who has earned a baccalaureate degree and takes educational courses; sometimes referred to as a "post-bacc" or non-degree seeking student.

**Postsecondary education –** Refers to all education for students after high school, including programs at community colleges, technical colleges, and four-year colleges and universities.

**Practicum/Practica** - A course where students complete a field experience as part of the regular coursework.

**Prerequisites –** Specific conditions, requirements, or courses that must be completed before enrolling in another course. Course prerequisites (if any) can be found within each course description. For example, Spanish I is a prerequisite for Spanish II.

**Proctor –** A person who supervises the taking of an examination to be certain there is no cheating, and that other rules are followed.

**Professional credit or professional development courses –** Courses offered to improve knowledge and skills in specific professional areas, such as professional development workshops, certification programs, certificates or boot camps. They are usually not offered for academic credit.

**Professor –** the highest rank attained by a faculty member. Sometimes also called *Full Professor*. A small fraction of tenured faculty are awarded the title of *Distinguished Professor* to recognize outstanding and broad contributions to the advancement of a field of study.

**Provost –** Reporting to the Chancellor, the Provost is the chief academic officer of the University who oversees the academic mission of the University. The Deans of each college report to the Provost.

## -Q-

**Quiz –** A short test, written or oral, usually less formal and usually carries less grade weight than an exam.

## -R-

**Reading Day –** Reading Day is to guarantee that students have one day between scheduled classes and the first final examination day. Per the Academic Calendar policy, faculty must not require student participation in any course-related activities on Reading Day.

**Readmission –** Approval of the enrollment or admission of a former student.

**Reassignment of Duties –** A period of time (usually one semester) when a faculty member is not teaching, but concentrating on their own education or research.

**Registrar –** The official at the University who is responsible for maintaining student records. The Office of the Registrar plans and oversees transfer credit articulation, registration, academic record maintenance, transcript preparation, graduation, a degree audit report system, and curricular records.

**Registration –** Students select courses to enroll in for the subsequent term.

**Registration hold flags** - Students may be blocked from registering for courses by "hold flags" that may be placed for various reasons, including College or departmental advising requirements, invalid admissions status, outstanding financial obligations, unreturned equipment or library materials, suspension and disciplinary action, or non-compliance with the North Carolina Immunization Law.

**Reinstatement** - Re-establishment of a student's active status following a successful suspension/termination appeal or an approved leave of absence.

**Required courses –** Courses that a student must take in order to complete their degree. In many cases, these courses must be passed with a grade of C or above.

**Research paper –** A formal written report that includes research findings and a student's own ideas.

**Residence** - For degree-seeking students, a residency requirement indicates the number of credit hours that must be completed through the University in order to graduate.

**Restricted elective course –** See *Elective course.*

**ROTC – R**eserve **O**fficers **T**raining **C**orps program; a scholarship program wherein the military covers the cost of tuition, fees, and textbooks, and also provides a monthly allowance. Scholarship recipients participate in summer training while in college and fulfill a military service commitment after college.

## -S-

**SAT – S**cholastic **A**ssessment **T**est I: Reasoning (SAT Reasoning Test) is a standardized test for college admissions that measures a student's aptitude in math, critical reading, and writing.

**Schedule of classes –** A list of available courses for a specific period of study (i.e., Fall semester), including course numbers, hours, locations, and other pertinent information.

**Scholarship –** A sum of money given to a student for the purposes of paying at least part of the cost of college. Scholarships can be awarded to students based on academic achievements, financial need, or on many other factors. Scholarships, like grants, do not have to be repaid.

**School –** *See Department/School.*

**Section** – One of several classes of the same course. At UNC Charlotte, a three-digit code is used to identify each section of each course offered. For instance, a course called Architecture Topical Studio may have section 001 – Cycloramic Models and section 002 – Building Envelopes.

**Self-directed learning –** A process in which students take the initiative to diagnose their learning needs, formulate learning goals, identify resources for learning, select and implement learning strategies, and evaluate learning outcomes. The instructor is available as a guide.

**Semester or Term –** A period of study, usually a third of the academic year (i.e., Fall, Spring, and Summer semesters). Fall and Spring semesters generally include a period of study of one 15-week and two 7-week half terms. The Summer semester generally includes one eleven-week and two five-week half terms. UNC Charlotte offers courses for the Fall, Spring, and Summer semesters, as well as varying term lengths associated with each semester. For the definition of each term refer to the Office of the Registrar.

**Semester hour** – See *Credit hour.*

**Seminar –** Most commonly offered as upper-level and graduate courses, these are small classes of approximately 15 students each, designed to facilitate intensive study of specific subject areas.

**Service Learning (SL)** – Service Learning (SL) incorporates community work into the curriculum, giving students real-world learning experiences that enhance their academic learning while providing a tangible benefit for the community. Service Learning designated courses integrate community service work into the disciplinary content and context of the course, and result in a SL designation on the student's transcript. Any course with an SL designation must include the scholarly exploration of the concepts of citizenship, public or community service, social issues, or social justice, and provide learning via direct, hands-on experience outside of the classroom.

**SOAR – S**tudent **O**rientation, **A**dvising, and **R**egistration. It is the official UNC Charlotte orientation for new undergraduate students.

**Sorority –** A social organization for female students, with specific objectives, rules and regulations.

**Standardized exams** - Any form of examination that requires all test takers to answer the same questions, or a selection of questions from a common bank of questions, following established protocol and that is scored in a standard or consistent manner.

**Student Convocation** – See *New Student Welcome.*

**Studio** - A course which typically centers around hands-on design projects, project-based learning, or activities for skill development in applied arts and other fields.

**Study abroad –** Visiting other countries for educational purposes, including earning academic credit, learning about different cultures, and developing a deeper understanding of the global marketplace.

**Subjective test** – An examination in which the answers are in the form of narrative sentences, or long or short essays, often expressing opinions (thus subjective) rather than reporting facts (objective).

**Summa Cum Laude –** The highest honorary recognition of the success of a graduating student. Translates to "With Highest Honor." For UNC Charlotte, it requires a cumulative GPA of at least 3.9.

**Supplemental Instruction –** Additional assistance for students in historically difficult courses, including accounting, biology, chemistry, communication studies, engineering, mathematics, and physics.

**Surveys –** A method for collecting information to improve the experience for future students. Current students are often asked to complete questionnaires or participate in focus groups to provide feedback on the quality of services and impact of educational programs.

**Suspension** - Administrative cancellation of enrollment due to unsatisfactory academic performance.

**Syllabus –** Course information made public and readily accessible to students and the public no later than one week prior to the first day of classes for the applicable semester. At a minimum, the posted syllabus must include the information detailed in the UNC Charlotte Academic Procedure: Undergraduate and Graduate Syllabus Requirements and Guidance.

**Synchronous Course** - Online course modality that uses real-time interaction with students and instructor with live video conferencing such as Zoom.

## -T-

**Take-home examination –** An examination that may be completed at home. Since students may use additional resources, these exams are usually more difficult than in-class exams.

**Term –** See *Semester or Term*.

**Term paper –** A written original work discussing a topic in detail, usually several typed pages in length. Often due at the end of a semester.

**Test –** An examination, or any other procedure that measures the academic abilities of students.

**Thesis** - A long essay or dissertation involving personal research, written by a candidate for a graduate degree.

**Transcript –** A list of all the courses a student has transferred in or taken at UNC Charlotte with the grades that the student earned in each course at UNC Charlotte. A transcript is an exact and complete record of a student's academic history. The University requires a high school transcript when a student applies for admission.

**Transferability –** The extent to which a course taken from one college or university may be accepted by another. Full or partial transfer of the credit may be available, dependent on factors such as whether the receiving college or university offers an equivalent or similar course at comparable levels of academic expectation for learning. Academic advisors have information about whether and how specific courses will transfer to their institutions and degree programs.

**Transfer student –** A student who has earned credit in one college or university, and then transfers to another.

**Transient study –** When credit for courses taken by current UNC Charlotte students at a college or university accredited by an accepted accrediting body are transferred to UNC Charlotte, subject to approval. For details, see the Degree Requirements and Academic Regulations section of this *Catalog.*

**True/False examination –** An examination in which questions are answered by marking "True" or "False."

**Tuition –** The amount of money that colleges charge for coursework and other instruction. Tuition can vary widely between educational institutions, and does not cover fees, cost of books, and other materials.

**Tuition waiver –** A form of financial assistance in which the university may charge little or no tuition.

**Tutoring –** A method of providing help to students through additional instruction outside of class. Advanced students work with individuals or small groups to increase their understanding of the material.

## -U-

**Undeclared –** A student who has not yet declared a major field of study; sometimes referred to as *undecided*.

**Undergraduate studies –** A two or four-year program in a college or a university, following high school graduation, which leads to an associate or bachelor's degree, respectively.

**University-sanctioned activities** - A University-sanctioned event or activity shall be one in which a student represents the University to external constituencies in academic or extracurricular activities including but not limited to University clubs, organizations, athletics, music ensemble tours, teams, and conferences.

**Unrestricted elective course –** See *Elective course.*

**Unsatisfactory grade reports –** notifications sent to students in the middle of each semester for courses in which the student is performing below average and a grade has been reported.

**Upper-division course –** A course that is intended for junior and senior level students (typically 3000 and 4000 course numbers) that contains advanced, and typically more specific, topic content.

## -V-

**Visiting faculty –** Faculty members who come to the university from another institution for an appointment of a year or less, sometimes to fill a temporary vacancy.

## -W-

**Withdrawal –** The procedure in which a student officially removes himself/herself from taking a course, or removes himself/herself from all courses. Tuition may or may not be refunded, depending on the date of withdrawal.

**Withdrawal with Extenuating Circumstances (WE) -** A Withdrawal with Extenuating Circumstances is for students who are unable to complete their coursework due to an unforeseen circumstance that may include, but not be limited to Personal/Family Emergency, Personal Hardship, Medical/Mental Health Emergency or Military Orders.

**W-limit hours** – The maximum number of credit hours (currently 16) for which undergraduate students are allowed to receive a grade of W over their academic career at UNC Charlotte.

# Index

## -123-


49er Account ..... 80, 850
49er Card ..... 80, 849
49ers ..... 44, 847, 934


## -A-


Academic Advising ..... 60, 841, 874, 934
Academic Affairs, Division of ..... 23
Academic Appeals and Grievances ..... 73
Academic Buildings ..... 25
Academic Calendar ..... 6, 934
Academic Distinctions ..... 72
Academic Integrity, Code of Student ..... 54
Academic Policies, Degree Requirements & ..... 59
Academic Probation ..... 71
Academic Proficiency and Placement ..... 50
Academic Programs ..... 11
Academic Records and Transcripts ..... 76
Academic Standing ..... 71
  Advanced Academic Standing ..... 73
  Warning ..... 71
Academic Suspension ..... 72
Accelerated Master's Programs ..... 66
Accountancy, Turner School of ..... 145
Accounting
  Major(s) ..... 145
  Honors ..... 143
  Early Entry – Graduate Program(s) ..... 146
  Course Descriptions ..... 595
Accreditations ..... 18
Actuarial Mathematics
  Major(s) ..... 565
  Minor(s) ..... 571
  Certificate(s) ..... 572
  Honors ..... 573
Adding/Dropping a Course *(see Registration)*
Admissions ..... 46
  Application ..... 47
  Deadlines ..... 47
  Health Requirements ..... 51
  Requirements ..... 48
    For Adult Students ..... 847
    For Former Students ..... 49, 72
    For Freshmen ..... 48
    For International Applicants ..... 48
    For Non-Degree Students ..... 49
    For Pre-Collegiate Enrichment Program (PEP) ..... 49
    For Second Degree or Major ..... 49
    For Transfer Students ..... 49
    For Visiting Students ..... 49
    For Undergraduate Certificates ..... 50
Adult Students and Extended Services ..... 847
Advanced Academic Standing ..... 73
Advanced Placement (AP) Course Credit ..... 73
Advising, Academic ..... 60, 841
  for Pre-Health/Pre-Med ..... 843
Advising Center, University ..... 841
Advising Systems ..... 839
Aerospace Engineering ..... 348
Aerospace Studies *(see ROTC)*
Africana Studies, Department of ..... 400
  Major(s) ..... 400
  Minor(s) ..... 405
  Honors ..... 405
  Course Descriptions ..... 597
AI-Assisted Software Engineering ..... TBD
Air Force *(see ROTC)*
Alcohol Abuse ..... 56
Alma Mater ..... 44, 935
Alumni Affairs ..... 865
American Democracy ..... 601
  Course Descriptions ..... 601
American Studies ..... 468
  Minor(s) ..... 468
  Course Descriptions ..... 601
Anthropology, Department of ..... 406
  Major(s) ..... 406
  Minor(s) ..... 410
  Honors ..... 411
  Early Entry – Graduate Program(s) ..... 412
  Course Descriptions ..... 601
Apartments *(see Housing)*
Application
  Dates ..... 47
  Fee ..... 48, 82
  Process, Admissions ..... 47
  Process, Financial Aid ..... 84
  For Degree ..... 75
Applied Energy and Electromechanical Engineering
  Early Entry - Graduate Program(s) ..... 322
  Course Descriptions ..... 606
Applied Physiology, Health, and Clinical Sciences, Dept of ..... 370
Arabic
  Minor(s) ..... 507
  Honors ..... 509
  Course Descriptions ..... 606
Architectural History and Heritage, Minor ..... 99
Architecture
  Major(s) ..... 92
  Minor(s) ..... 98
  Honors ..... 90
  Course Descriptions ..... 607
Architecture, School of ..... 92
Army ROTC *(see ROTC)*
Art and Art History, Department of ..... 101
Art
  Major(s) ..... 102
  Minor(s) ..... N/A
  Honors ..... 90
  Course Descriptions ..... 609
Art History
  Major(s) ..... 114
  Minor(s) ..... 117
  Honors ..... 90, 117

Course Descriptions ..... 613
Artificial Intelligence/AI Systems Development ..... 202, 482
Major(s) ..... 202, 482
Minor(s) ..... 470
Early Entry - Graduate Program(s) ..... 206
Course Descriptions ..... 587, 706, 721
Artificial Intelligence (AI) in Business ..... TBD
Arts + Architecture, College of ..... 88
Honors ..... 90
Honors Course Descriptions (AAHP) ..... 595
Interdisciplinary Course Descriptions (COAA) ..... 641
Arts and Sciences *(see Humanities & Earth and Social Sciences)*
Athletics ..... 847
Athletic Academic Center ..... 829
Athletic Training, Early Entry ..... 378
Attendance and Participation, Course ..... 68
Auditing Courses ..... 66
Auxiliary Services ..... 849

## -B-

Baccalaureate Degree Programs ..... 12
Progression ..... 60
Requirements ..... 61
Second Baccalaureate ..... 49, 65, 73
Basic Needs Service ..... 852
Bike and e-Scooter Rentals ..... 851
Bioinformatics
Major(s) ..... 182
Minor(s) ..... 186
Honors ..... 180
Early Entry – Graduate Program(s) ..... 186
Course Descriptions ..... 617
Bioinformatics and Genomics, Department of ..... 182
Biological Sciences, Department of ..... 527
Biology
Major(s) ..... 545
Minor(s) ..... 548
Honors ..... 557
Early Entry - Graduate Program(s) ..... 557
Course Descriptions ..... 618
Biotechnology ..... 550
Minor(s) ..... 550
Board of Governors ..... 21
Board of Trustees ..... 21
Bookstore ..... 850
Botanical Gardens ..... 852
Buildings, Campus Academic ..... 25
Bus Transportation ..... 851
Business, Belk College of ..... 140
Honors ..... 143
General Course Descriptions (BUSN) ..... 624
Business Affairs, Division of ..... 24
Business Administration
Major(s) ..... 147
Business Analytics
Major(s) ..... 150
Honors ..... 143
Course Descriptions ..... 624
Business Information Systems/Operations Management, Dept ..... 149
Business Law
Course Descriptions ..... 624

## -C-

Cafeterias *(see Dining on Campus)*
Calendar, Academic ..... 6
Cambridge Exams .....
Campus
Main ..... 24
Center City ..... 24
Campus Buildings, Academic ..... 25
Campus Activities Board ..... 861
Campus Life and Student Resources ..... 846
Campus Map ..... 958
Capitalism Studies
Minor(s) ..... 471
Course Descriptions ..... 625
Career Center, University ..... 842
Catalog Policies and Disclaimers ..... 8
Center City Campus ..... 24
Certificate Programs
Admission to ..... 50
Programs Offered ..... 12
Chancellor ..... 2, 21, 936
Chancellor's List ..... 72, 936
Change of Degree or Major ..... 63
Charlotte 49ers ..... 44, 847
Charlotte Global ..... 855
Cheating ..... 54
Check Policy *(see Returned Check Policy)*
Chemistry
Major(s) ..... 552
Minor(s) ..... 558
Honors ..... 558
Early Entry – Graduate Program(s) ..... 559
Course Descriptions ..... 630
Chemistry, Department of ..... 552
Child and Family Development
Course Descriptions ..... 634
Children's Literature and Childhood Studies
Minor(s) ..... 450
Chinese
Minor(s) ..... 507
Honors ..... 509
Course Descriptions ..... 634
Civic Engagement and Youth Leadership
Minor(s) ..... 229
Course Descriptions ..... 644
Civil and Environmental Engineering, Department of ..... 283
Civil Engineering
Major(s) ..... 285
Early Entry – Graduate Program(s) ..... 297
Course Descriptions ..... 626
Civil Engineering Technology *(see Engineering Technology)*
Clinical Research Management ..... 377
Clubs, Student *(see Student Organizations)*

Code of Student Academic Integrity ..... 54
Code of Student Responsibility ..... 55
Cognitive Science
Minor(s) ..... 505
Collaborative Educators in Inclusive Schools ..... 246
College Level Examination Program (CLEP) .....
Commencement (*see Graduation*)
Communication Across the Curriculum ..... 840
Communication Studies
Major(s) ..... 413
Minor(s) ..... 426
Honors ..... 419
Certificate(s) ..... 422
Early Entry – Graduate Program(s) ..... 423
Course Descriptions ..... 641
Communication Studies, Department of ..... 413
Community Relations ..... 865
Comparative Literatures and Cultural Studies
Minor(s) ..... 451
Computer Engineering
Major(s) ..... 300
Minor(s) ..... 305
Early Entry – Graduate Program(s) ..... 306
Course Descriptions ..... 652
Computer Science
Major(s) ..... 187
Minor(s) ..... 191
Certificate(s) ..... 193
Early Entry – Graduate Program(s) ..... 193
Course Descriptions ..... 721
Computer Science, Department of ..... 187
Computing and Informatics, College of ..... 177
Major(s) ..... 179
Minor(s) ..... 179
Honors ..... 180
Early Entry – Graduate Program(s) 180, 186, 193, 196, 200, 206, 209
Certificate(s) ..... 179
Course Descriptions (ITSC) ..... 729
Cone University Center ..... 29, 860
Construction, Albert School of ..... 255
Construction Engineering ..... 257
Course Descriptions ..... 640
Construction Management ..... 259
Major(s) ..... 259
Minor(s) ..... 280
Early Entry – Graduate Program(s) ..... 282
Course Descriptions ..... 639
Continuing Education *(See Professional Credit)* ..... 581
Convocation
New Student Convocation and Welcome ..... 6, 52
Cooperative Education ..... 438, 432, 533, 554, 559, 574, 578, 814
Copy Center ..... 850
Corequisites ..... 594, 936
Corporate Training and Executive Education ..... 581
Counseling and Psychological Services (CAPS) ..... 854
Course Attendance and Participation ..... 68
Course Descriptions ..... 591
Course Load ..... 60, 936
Course Numbering System ..... 594
Course Prefix ..... 592
Creative Writing *(see English)*
Credit by Examination ..... 73
Fee ..... 82
Credit for Military Training *(see Transfer Students)*
Credit from Two-Year Institutions *(see Transfer Students)*
Credit Hours ..... 60, 71
Crime Analysis
Early Entry Graduate Program(s) ..... 427
Crime Analytics
Minor(s) ..... 426
Criminal Justice
Major(s) ..... 424
Minor(s) ..... 426
Honors ..... 425
Early Entry – Graduate Program(s) ..... 427
Course Descriptions ..... 636
Criminal Justice and Criminology, Department of ..... 424
Critical Thinking and Communication Course Descriptions ..... 644
Cross-listed Courses ..... 594, 906
Cum Laude *(see Graduation with Distinction)*
Cybersecurity
Major(s) ..... 194
Early Entry – Graduate Program(s) ..... 196

## -D-

Dance
Major(s) ..... 119
Minor(s) ..... 123
Certificate(s) ..... 123
Course Descriptions ..... 644
Dance, Department of ..... 119
Data Science
Major(s) ..... 208
Minor(s) .....
Early Entry – Graduate Program(s) ..... 210
Course Descriptions ..... 649
Data Science, School of ..... 208
Day of Convocation *(see Convocation)*
Dean of Students Office ..... 851
Dean's List ..... 72, 937
Declaring Majors and Minors ..... 64
Definitions *(see Glossary)*
Degree
Application for ..... 75
Change of ..... 65
New This Year ..... 9
Programs Offered ..... 12
Progression ..... 60
Requirements ..... 64
Second ..... 65
Dining on Campus ..... 850
Cost/Meal Plans ..... 82
Directory ..... 868
Faculty ..... 868
Emeritus Faculty ..... 917
Disabilities
Campus Transportation ..... 851
Education for Vocationally Disabled ..... 85

Accessible Housing....855
Disability Services....840
Disclaimers and Policies, Catalog....8
Distance Education....581
Dormitories *(see Housing)*
Dropping a Course *(see Withdrawal)*
Dual Undergraduate and Graduate Registration....67
Drugs, Illegal....56

## -E-

Early Childhood Education and Intervention
Major(s)....234
Minor(s)....246
Course Descriptions....650
Early Entry to Graduate Programs....12, 66
Earth Sciences, Department of Earth, Environmental, and Geographical Sciences....428
Earth and Environmental Sciences....428
Major(s)....428
Minor(s)....430
Honors....442
Early Entry – Graduate Program(s)....431
Course Descriptions....671
Economics
Major(s)....156
Minor(s)....158
Honors....143
Early Entry – Graduate Program(s)....159
Course Descriptions....658
Economics, Department of....156
Education Abroad, Office of....856
Education, Cato College of....214
Teacher Education Policies and Procedures....218
Honors....217
General Course Descriptions (EDUC)....660
Education - Learning, Design, and Technology
Early Entry – Graduate Program(s)....221
Course Descriptions....661
Educational Leadership....221
Early Entry – Graduate Program(s)....221
Educational Research, Measurement, and Evaluation
Course Descriptions....804
Electrical and Computer Engineering, Department of....299
Electrical Engineering
Major(s)....306
Minor(s)....316
Early Entry – Graduate Program(s)....316
Course Descriptions....652
Electrical Engineering Technology (*Electromechanical Engineering Technology)*
Major(s)....317
Course Descriptions....663
Elementary Education
Major(s)....232
Early Entry – Graduate Program(s)....247
Course Descriptions....662
Emergency Numbers....inside cover
Emeritus Faculty....917
Employment, Student *(see University Career Center)*
Energy Engineering *(see Mechanical Engineering)*
Energy Infrastructure *(see Civil and Environmental Engineering)*
Engineering, Wm States Lee College of....249
Honors....252
General Course Descriptions (ENGR)....669
Engineering Management
Early Entry – Graduate Program(s)....3543
Engineering Technology
Major(s)....317
Civil Engineering Technology....265
Course Descriptions....674
Electromechanical Engineering Technology....319
Course Descriptions....675
Engineering Technology
Course Descriptions (ETGR)....680
Fire and Safety Engineering Technology....272
Fire Science, Minor....281
Early Entry – Graduate Program(s)....281
Course Descriptions....677
Mechanical Engineering Technology....326
Course Descriptions....681, 748
Engineering Technology and Construction Management, Dept....317
Course Descriptions....658
English
Major(s)....443
Minor(s)....450
Honors....453
Early Entry – Graduate Program(s)....454
Course Descriptions....664
English, Department of....443
English as a Second Language, Teaching
Minor(s)....229
Course Descriptions....822
Enrollment Management....23, 27, 847
Entrepreneurship
Certificate(s)....171
Course Descriptions....682
Environmental Engineering....294
Course Descriptions....671
Environmental Facilities and Services....853
Environmental Studies
Major(s)....432
Examinations
Cambridge....
CLEP....
Credit by Examination....72
GMAT....
GRE....
LSAT....842
SAT....48, 50
Exchange Program, Student *(see Education Abroad)*
Exercise Science
Major(s)....370
Honors....375
Course Descriptions....682
Experiential Learning Programs....399, 860, 863
Extended Academic Programs....847

## -F-


Faculty ..... 868
Family Educational Rights and Privacy Act (FERPA) ..... 76
Family Services *(see New Student and Family Services)*
Farsi
  Course Descriptions ..... 686
Fees ..... 80
Fight Song, 49ers ..... 45
Film Studies ..... 472
  Minor(s) ..... 472
  Certificate(s) ..... 473
  Course Descriptions ..... 687
Final Grades ..... 70
Finance
  Major(s) ..... 160
  Honors ..... 143
  Early Entry – Graduate Program(s) ..... 165
  Course Descriptions ..... 688
Finance, Department of ..... 160
Financial Aid ..... 83
Financial Engineering and Fin Tech
  Major(s) ..... N/A
  Minor(s) ..... N/A
  Early Entry ..... 165, 574
  Course Descriptions ..... N/A
Honors
Financial Information ..... 79
Fire & Safety Engineering Technology *(see Engineering Technology)*
Fire Science, Minor ..... 281
First-Year Experience ..... 863
Fixed Tuition Program ..... 80
Food Courts *(see Dining on Campus)*
Foreign Languages *(see Languages, Cultures, and Translation)*
Foreign Language Education
  Minor(s) ..... 226
  Early Entry – Graduate Program(s) ..... 230
  Course Descriptions ..... 689
Forgiveness Policy ..... 72, 84
Francophone Studies
  Minor(s) ..... 494
  Honors ..... 509
  Course Descriptions ..... 689
Fraternity and Sorority Life ..... 863
French
  Major(s) ..... 493
  Minor(s) ..... 495
  Certificate(s) ..... 495
  Honors ..... 509
  Course Descriptions ..... 691


## -G-


Gardens *(see Botanical Gardens)*
General Education Program ..... 61
  Exemptions from ..... 75
  Course Descriptions (LBST, UCOL) ..... 736, 829
Geography ..... 434
  Major(s) ..... 434
  Minor(s) ..... 436
  Honors ..... 442
  Early Entry – Graduate Program(s) ..... 438
  Course Descriptions ..... 692
Geology ..... 438
  Major(s) ..... 438
  Minor(s) ..... 440
  Honors ..... 442
  Course Descriptions ..... 697
German
  Major(s) ..... 496
  Minor(s) ..... 497
  Certificate(s) ..... 497
  Honors ..... 509
  Course Descriptions ..... 698
Gerontology ..... 474
  Minor(s) ..... 475
  Early Entry – Graduate Program(s) ..... 476
  Course Descriptions ..... 704
Global Business Foundations Abroad ..... 149
Global Education, Applied Understandings in
  Minor(s) ..... 234
Global Studies, Department of ..... 455
Global Studies
  Major(s) ..... 455
  Minor(s) ..... 462
  Honors ..... 460
  Course Descriptions ..... 699
Glossary ..... 933
GMAT Exam *(see Examinations)*
Gold Rush ..... 859
Government, Student *(see Student Government Association)*
Grade Changes/Final Grade Appeals ..... 70
Grade Point Average (GPA) ..... 71
  Calculator ..... 71
Grade Replacement ..... 70
Grade Reports, Unsatisfactory ..... 70
Grades ..... 69
Grading Policies ..... 69
Graduate Programs
  Early Entry ..... 66
  Accelerated Master's Programs ..... 66
  Dual Undergraduate/Graduate Registration ..... 67
Graduation ..... 75
  Application for Degree ..... 75
  Commencement Marshals ..... 76
  With Distinction ..... 72
Graduation Rate Disclosure Statement ..... 23
Grants, Student *(see Financial Aid)*
Graphic Design
  Major(s) ..... 116
  Honors ..... 117
  Course Descriptions ..... 612
GRE Exam *(see Examinations)*
Greater Charlotte Consortium ..... 67
Greek
  Course Descriptions ..... 747
Greek Life *(see Fraternity and Sorority Life)*
Greek Village *(see Housing)*

## -H-


Handicapped Services *(see Disability Services)*
Health Administration
Early Entry – Graduate Program(s) ..... 389
Health and Human Services, College of ..... 368
Course Descriptions (HAHS) ..... 705
Health & Medical Humanities
Minor(s) ..... 476
Course Descriptions ..... 705
Health, Student ..... 853
Health Informatics and Analytics
Early Entry – Graduate Program(s) ..... 211
Health Insurance, Student ..... 51, 854
Health Requirements ..... 51
Public Health and Health Systems Management
Major(s) ..... 386
Honors ..... 386
Course Descriptions ..... 714, 717
History
Major(s) ..... 462
Minor(s) ..... 466
Honors ..... 466
Early Entry – Graduate Program(s) ..... 467
Course Descriptions ..... 707
History, Department of ..... 462
History of University of North Carolina ..... 21
History of UNC Charlotte ..... 22
Holocaust, Genocide, and Human Rights Studies
Major(s) ..... 458
Minor(s) ..... 461
Course Descriptions ..... 705
Honor Societies *(see Student Organizations)*
Honors, Academic ..... 72, 939
Honors College ..... 587
Department and College Honors Programs ..... 589
University Honors Program ..... 588
Course Descriptions ..... 715
Honors Societies ..... 590
Housing and Residence Life ..... 855
Fees ..... 82
Human-Centered AI (Interdisciplinary)
Major(s) ..... 199, 482
Course Descriptions ..... 706
Human-Centered Computing & Education, Department of ..... 197
Human-Centered Computing & Education
Major(s) ..... 197
Minor(s) ..... 199
Early Entry – Graduate Program(s) ..... 200
Course Descriptions ..... 725
Human-Centered Design
Minor(s) ..... 199
Human-Computer Interaction
Early Entry - Graduate Program(s) ..... 200
Humanities & Earth and Social Science, College of ..... 396
General Course Descriptions (CHES) ..... 633


## -I-


I.D. Card *(see 49er Card)*
I.D. Office ..... 849
Illegal Drugs, Use Prevention, Policy ..... 56
Immunization Requirements ..... 51, 853
Inclusion, Disability, and Exceptionalities in American Society ..... 247
Incomplete, Grade of (I) *(see Grades)*
Industrial and Systems Engineering, Dept. of ..... 336
Industrial Engineering Technology *(see Engineering Technology)*
Infirmary *(see Student Health)*
Information Security and Privacy
Early Entry – Graduate Program(s) ..... 196
Information Technology *(see Computer Science)*
Early Entry – Graduate Program(s) ..... 201
Information Technology Services *(see OneIT)*
Innovative Thinking and Problem Solving, Certificate ..... 544
Institutional Integrity, Division of ..... 24
Inter-Institutional Registration ..... 67
Interactive Programming
Minor(s) ..... 192
Interdisciplinary Studies ..... 468
Major(s) ..... 468
Course Descriptions ..... 719
Intercultural and Educational Experiences ..... 857
Interdisciplinary Studies, Office of ..... 468
International Admissions ..... 47
Application ..... 48
International Baccalaureate (IB) Program .....
International Business/Management
Major(s) ..... 169
Minor(s) ..... 171
Honors ..... 143
Course Descriptions ..... 719
International Programs ..... 828
International Student and Scholar Office ..... 828
International Student Exchange Program *(see Education Abroad)*
International Student Orientation ..... 52
International Studies *(see Global Studies)*
Major(s) ..... 455
Minor(s) ..... 455
Honors ..... 460
Course Descriptions ..... 699
Italian Studies
Minor(s) ..... 507
Honors ..... 509
Course Descriptions ..... 728
IT Operations ..... 583


## -J-


Jamil Niner Student Pantry ..... 852
Japanese
Major(s) ..... 498
Minor(s) ..... 499
Certificate(s) ..... 500
Honors ..... 509

Course Descriptions ..... 731
Jazz Studies
Major(s) ..... 130
Certificate(s) ..... 137
Journalism
Minor(s) ..... 421
Course Descriptions ..... 733

## -K-

Kinesiology *(see Applied Physiology, Health, and Clinical Sciences)* ..... 370
Course Descriptions ..... 733
Kinesiology, Early Entry ..... 378

## -L-

Language Proficiency Procedures ..... 50
Languages, Cultures, and Translation, Department of. ..... 492
Certificate, Early Entry ..... 508
Honors Program ..... 509
General Course Descriptions (LANG) ..... 734
Latin
Course Descriptions ..... N/A
Latin American Studies ..... 485
Major(s) ..... 485
Minor(s) ..... 487
Honors ..... 487
Early Entry – Graduate Program(s) ..... 489
Course Descriptions ..... 739
Law *(see Pre-Law)*
Law Enforcement *(see Criminal Justice)*
Leadership and Community Engagement ..... 862
Leadership, Innovation, Technology, and Diversity (LEADS)
Certificate (s) ..... 544
Course Descriptions (CHES) ..... 633
Course Descriptions (LEAD) ..... 735
Leadership Studies
Certificate(s) ..... 422, 862
LEADS Program
Course Descriptions ..... 735
Learning and Development ..... 584
Learning, Design, & Technology *(see Education - Learning, Design...)*
Learning Communities ..... 840
Legal Studies ..... 490
Minor(s) ..... 490
Course Descriptions ..... 737
Levine Scholars
Course Descriptions ..... 739
Liberal Studies
Course Descriptions ..... 736
Library ..... 25, 837
Light Rail ..... 851
Linguistics
Minor(s) ..... 452
Literature *(see English)*
Loans *(see Financial Aid)*
Logo, University ..... 44
LSAT Exam *(see Examinations)*

## -M-

Machine Learning, Department of ..... 202
Magna Cum Laude *(see Graduation with Distinction)*
Mail & Package Services ..... 850
Majors
Change of ..... 65
Declaration of ..... 64
Meta Majors ..... 845
Programs Offered ..... 12
Second ..... 65
Management
Major(s) ..... 166
Minor(s) ..... 171
Honors ..... 143
Course Descriptions ..... 760
Management, Department of ..... 166
Management Information Systems
Major(s) ..... 151
Minor(s) ..... 154
Honors ..... 143
Course Descriptions ..... 719
Management of Information Technology
Early Entry – Graduate Program(s) ..... 200
Manufacturing Engineering Technology *(see Engineering Technology)*
Map, Campus ..... 958
Marketing
Major(s) ..... 172
Honors ..... 143
Course Descriptions ..... 761
Marketing, Department of ..... 172
Mascot, University ..... 45
Mathematics
Major(s) ..... 560
Minor(s) ..... 572
Certificate(s) ..... 572
Honors ..... 573
Early Entry – Graduate Program(s) ..... 574
Course Descriptions ..... 743
Mathematics and Statistics, Department of ..... 560
Mathematics Education
Course Descriptions ..... 741
Mathematics for Business
Major(s) ..... 549
Mathematics Placement Procedures ..... 50
Meal Plans *(see Dining on Campus)*
Mechanical Engineering
Major(s) ..... 345
Minor(s) ..... 366
Early Entry – Graduate Program(s) ..... 367
Course Descriptions ..... 750
Mechanical Engineering and Engineering Science, Dept of ..... 344
Mechanical Engineering Technology *(see Engineering Technology)*
Medical Care *(see Student Health)*
Medicine *(see Pre-Health Professions & Pre-Med School Advising)*
Merit Scholars Programs ..... 589
Meta Majors ..... 845
Meteorology ..... 440

Major(s) ..... 440
Honors ..... 442
Course Descriptions ..... 758
Middle Grades Education
Major(s) ..... 223
Course Descriptions ..... 747
Middle, Secondary, and K-12 Education, Department of ..... 223
Course Descriptions ..... 747
Military and Veteran Services ..... 859
Military Science *(see ROTC)*
Military Training Credit *(see Transfer Credit)*
Minors
Declaration of ..... 65
Programs Offered ..... 12
Mission, Vision, and Values, University ..... 22
Modern Greek *(see Greek)*
Motorsports *(see Mechanical Engineering)*
Music
Major(s) ..... 125
Minor(s) ..... 136
Certificate(s) ..... 137
Course Descriptions ..... 764, 765, 773
Music, Department of ..... 125
Musical Theatre ..... 138
Certificate(s) ..... 138


## -N-


Neurodiagnostics and Sleep Science
Course Descriptions ..... 777
New Degree Programs this Year ..... 9
New Student and Family Services ..... 840, 847
New Student Welcome ..... 52
New Student Orientation *(see Student Orientation & Registration)*
Newspaper, Student ..... 861
Niner Finances ..... 852
Niner Media ..... 861
Niner Nation Family ..... 861
Niner Times ..... 841
Ninerways ..... 813
Noble Niner Code ..... 58
Nondiscrimination ..... 23
Nontraditional Academic Programs .....
Norm *(see Mascot)*
Nursing
Major(s) ..... 379
Honors ..... 383
Early Entry – Graduate Program(s) ..... 383
Course Descriptions ..... 778
Nursing, School of ..... 379
Nutrition ..... 377


## -O-


Occupational Safety
Minor(s) ..... 281
OneIT ..... 864
Online Courses *(see Distance Education)*
Operations and Supply Chain Management
Major(s) ..... 151
Minor(s) ..... 155
Honors ..... 143
Course Descriptions ..... 780
Operations Research
Course Descriptions ..... 781
Optical Science *(see Physics and Optical Science)*
Orientation, Student ..... 52, 847
Organizations, Student ..... 843
Outdoor Adventure Leadership
Minor(s) ..... 375


## -P-


Parent Information/Authorized Payer ..... 86
Parking and Transportation Services ..... 83, 823
Fees and Violations ..... 83
Pass/No Credit Option (Grades) ..... 69
PassioGo! ..... 851
Payment ..... 86
Performing Arts ..... 858
Philosophy, Department of ..... 510
Major(s) ..... 510
Minor(s) ..... 513
Honors ..... 513
Early Entry – Graduate Program(s) ..... 514
Course Descriptions ..... 781
Physician *(see Student Health)*
Physics
Major(s) ..... 575
Minor(s) ..... 577
Honors ..... 578
Early Entry – Graduate Program(s) ..... 578
Course Descriptions ..... 784
Physics and Optical Science, Department of ..... 575
Plagiarism ..... 54, 942
Police and Public Safety ..... 858
Policies *(see Academic Policies)*
Political Science
Major(s) ..... 515
Minor(s) ..... 518
Honors ..... 520
Early Entry – Graduate Program(s) ..... N/A
Course Descriptions ..... 787
Political Science and Public Administration, Department ..... 515
Portuguese
Course Descriptions ..... 791
Post Office *(see Mail and Package Services)*
Power Systems and Power Electronics *(see Electrical and Computer Engineering)*
Pre-Collegiate Enrichment Program (PEP) ..... 49
Pre-Health Professions and Pre-Medical School Advising ..... 843
Pre-Law Advising ..... 842
Pre-Med *(see Pre-Health Professions...)*
Prerequisites ..... 66, 594, 911

Privacy of Student Educational Records *(see also FERPA)* ..... 76
Probation, Academic ..... 71
Professional Credit ..... 568, 963
Professional Schools, Preparation for ..... 842
Professional Studies, School of ..... 580
Major(s) ..... 582
Course Descriptions ..... 791
Programs and Degrees Offered ..... 12
Project Management, Undergraduate Certificate ..... 585
Prospect for Success ..... 840
Provost ..... 3, 942
Psychological Science, Department of ..... 521
Psychology
Major(s) ..... 522
Minor(s) ..... 525
Honors ..... 524
Course Descriptions ..... 793
Public Administration ..... 519
Minor(s) ..... 519
Early Entry – Graduate Program(s) ..... 521
Public Health and Health Systems Management
Major(s) ..... 385
Minor(s) ..... 388
Honors ..... 386
Early Entry – Graduate Program(s) ..... 390
Course Descriptions ..... 714, 717
Public Health and Health Administration, Department of ..... 385
Public Speaking *(see Communication Studies)*
Public Transportation ..... 850

## -Q-

Quality Points ..... 71

## -R-

Reader's Guide to the Catalog ..... 8
Reading and Elementary Education, Department of ..... 232
Reading Education
Major(s) ..... 232
Minor(s) ..... 235
Early Entry – Graduate Program(s) ..... 235
Course Descriptions ..... 798
Readmission of Former Students ..... 72
Real Estate *(see Finance)*
Records, Privacy of ..... 76
Records and Transcripts ..... 76
Recreational Facilities ..... 848
Recreation, University ..... 848
Recycling ..... 853
Refunds ..... 87
Registration ..... 65
Religious Studies
Major(s) ..... 527
Minor(s) ..... 529
Honors ..... 529
Early Entry – Graduate Program(s) ..... 530
Course Descriptions ..... 798
Religious Studies, Department of ..... 527
Repeating Courses ..... 70
Residence Requirement, Baccalaureate Degree ..... 61
Residence Status for Tuition Purposes ..... 80
Respiratory Care, Early Entry ..... 379
Respiratory Therapy
Major(s) ..... 374
Honors ..... 375
Early Entry – Graduate Program(s) ..... 379
Course Descriptions ..... 802
Responsibility, Student ..... 10, 55
Returned Check Policy ..... 86
Reverse Transfer ..... 75
Risk Management and Insurance *(see Finance)*
Room and Board *(see Housing)*
ROTC
Air Force / Aerospace Studies ..... 531
Minor(s) ..... 531
Course Descriptions ..... 597
Army / Military Science ..... 532
Minor(s) ..... 532
Course Descriptions ..... 762
Russian
Minor(s) ..... N/A
Certificate(s) ..... 501
Honors ..... 509
Course Descriptions ..... 804

## -S-

Scholarships ..... 85, 590
Science, Klein College of ..... 545
Honors ..... 551, 558, 573, 578
General Course Descriptions (COSC) ..... 635
Scooter/e-Scooter Rentals ..... 851
Second Baccalaureate
Admission to ..... 49, 65, 73
Degree ..... 65
Major/Minor ..... 65, 73
Secondary Education
Minor(s) ..... 227
Course Descriptions ..... 805
Security and Intelligence Studies
Minor(s) ..... 519
Sexual Misconduct and Interpersonal Violence ..... 56
Smoking and Use of Tobacco Products Policy ..... 57
Social Work
Major(s) ..... 391
Honors ..... 394
Course Descriptions ..... 812
Social Work, School of ..... 391
Sociology
Major(s) ..... 534
Minor(s) ..... 539
Honors ..... 539
Early Entry – Graduate Program(s) ..... 540
Course Descriptions ..... 808
Sociology, Department of ..... 534
Software and Information Systems

Course Descriptions ..... 725
Software Development/Software Systems
Minor(s) ..... 192
Sororities *(see Fraternity and Sorority Life)*
Spanish
Major(s) ..... 501
Minor(s) ..... 502
Certificate(s) ..... 503
Honors ..... 509
Early Entry – Graduate Program(s) ..... 504
Course Descriptions ..... 815
Special Education
Major(s) ..... 237, 242
Minor(s) ..... N/A
Early Entry – Graduate Program(s) ..... 247
Course Descriptions ..... 818, 820
Special Education and Child Development, Department ..... 237
Sports ..... 847
Sports Analytics
Major(s) ..... 209
Certificate(s) ..... 377
Course Descriptions ..... 820
Statistics
Major(s) ..... 562, 567
Minor(s) ..... 572
Course Descriptions ..... 821
Student Academic Integrity, Code of ..... 54
Student Accountability and Conflict Resolution ..... 851
Student Activity Center (SAC) ..... 849
Student Affairs, Division of ..... 24
Student Assistance and Support Services (SASS) ..... 852
Student Classification ..... 61
Student Conduct ..... 53
Student Convocation *(see Convocation)*
Student Engagement ..... 860
Student Exchange Program *(see Education Abroad)*
Student Government Association (SGA) ..... 863
Student Health ..... 853
Student Housing *(see Housing)*
Student ID *(see 49er Card)*
Student Involvement ..... 864
Student Life ..... 860
Student Marshals *(see Graduation)*
Student Niner Media ..... 861
Student Organizations ..... 589, 842, 843, 864
New Student Orientation ..... 847
Student Responsibility ..... 10, 55
Student Union ..... 39, 860
Study Abroad *(see Education Abroad)*
Suites *(see Housing)*
Summa Cum Laude *(see Graduation with Distinction)*
Summer School ..... 87
Suspension
Academic ..... 72
Readmission After ..... 72
Appeal Procedures ..... 73
Sustainability .....
Minor(s) ..... 437
Systems Engineering
Major(s) ..... 337
Course Descriptions ..... 805

## -T-

Teacher Education Advising and Licensure (TEAL) ..... 76, 213
Teacher Licensure (Graduation) ..... 76, 212
Teaching English as a Second Language
Minor(s) ..... 229
Course Descriptions ..... 822
Technical/Professional Writing
Minor(s) ..... 453
Technology ..... 864
Termination of Enrollment ..... 67
Theaters ..... 858
Theatre
Major(s) ..... 139
Minor(s) ..... 147
Course Descriptions ..... 823
Theatre, Department of ..... 139
Transcripts ..... 76
Transfer Center, University ..... 845
Transfer Credit ..... 73
Transfer Students
Admission of ..... 49
Application for ..... 48
Transient Study ..... 74
Translating and Translation Studies
Certificate(s) ..... 496, 497, 498, 500, 501, 503
Early Entry – Graduate Program(s) ..... 504, 506
Course Descriptions ..... 828
Transportation ..... 850
Travel Abroad *(see Education Abroad)*
Tuition and Fees ..... 80
Payment ..... 86
Refunds ..... 87
Tutorial Services ..... 844

## -U-

UNC System ..... 21
Undergraduate Degrees ..... 12
Undergraduate Education, Office of ..... 838
Undergraduate Research, Office of ..... 841
University, About the ..... 20
University Advancement, Division of ..... 24, 864
University Advising Center ..... 841
University Career Center ..... 842
University Center for Academic Excellence ..... 843
University College ..... 845
Course Descriptions ..... 829
University Communications ..... 865
University Honors *(see Honors College)*
University Logo ..... 44
University Mascot ..... 45
University Mission, Vision, and Values ..... 22
University of North Carolina System ..... 21
University Recreation ..... 848
University Regulation of Student Conduct ..... 53

University Seal ..... 44
University Structure ..... 23
University Transfer Center ..... 845
University Mission, Vision, and Values ..... 22
Unsatisfactory Grade Reports ..... 70
Uptown Campus *(see Center City)*
Urban Studies
Minor(s) ..... 438, 441
Course Descriptions ..... 831

## -V-

Venture Outdoor Leadership ..... 375, 863
Veteran Benefits ..... 85
Veteran Services ..... 859
Vision and Values, University ..... 22
Visiting Students, Admission of ..... 49
Vocationally Disabled, Education for *(see Disabilities)*

## -W-

Warning, Good Academic Standing ..... 71
Weapons, Regulations Concerning ..... 55
Wellness Promotion, Center for ..... 854
Withdrawal
By the Student ..... 67
By the University ..... 68
Grade of W ..... 70
Non-Compliance/Immunization Requirements ..... 51
Policy ..... 65, 67
W-Limit Hours ..... 70
Women's and Gender Studies ..... 491
Minor(s) ..... 491
Early Entry – Graduate Program(s) ..... 491
Course Descriptions ..... 831
Work/Study *(see Employment)* ..... 84
World Affairs Council of Charlotte ..... 857
Writing, First-Year
Course Descriptions ..... 835
Writing, Rhetoric, and Digital Studies ..... 420
Major(s) ..... 420
Minor(s) ..... 422
Course Descriptions ..... 835
Writing Placement Procedures ..... 50

UNIVERSITY OF NORTH CAROLINA CHARLOTTE

# Campus Map

Prepared by:
Facilities Information Systems
(704) 687-8622
www.charlotte.edu

Updated: 10/7/2024

## Academic Buildings

| | | | |
|---|---|---|---|
| 72 | Albert & Freeman EPIC | 35 | Friday |
| 4 | Atkins | 9 | Garinger |
| 16 | Barnard | 58 | Grigg Hall |
| 75 | BATT CAVE Research Center | 87 | Johnson Band Center |
| 17 | Belk Gym | 97 | Klein Hall |
| 68 | Bioinformatics | 62 | Kulwicki Laboratory |
| 38 | Burson | 02 | Macy |
| 42 | Cameron Hall | 20 | McEniry |
| 85 | Charlotte Engineering Early College | 52 | Mebane Hall |
| 63 | College of Health & Human Services | 18 | Memorial Hall |
| 32 | Colvard | 80 | PORTAL |
| 8 | Denny | 51 | Robinson Hall |
| 57 | Duke Centennial Hall | 19 | Rowe |
| 45 | Fretwell | 12 | Smith |
| | | 41 | Storrs |
| | | 10 | Winningham |
| | | 56 | Woodward |

## Services - Places of Interest

### General

| | |
|---|---|
| 39 | Aux Services Building |
| 46 | Barnhardt<br>- Student Activity Center<br>- Halton Arena |
| 31 | Cafeteria Activities Building |
| 55b | Campus Police |
| 5 | Cone University Center |
| 55a | Facilities Management |
| 92 | Facility Operations & Parking Services |
| 67 | Hayes Baseball Stadium |
| 29 | Housing & Res Life |
| 37 | McMillan Greenhouse |
| 49 | Miltimore-Wallis Center |
| 91 | Price Counseling Center |
| 4A | University Career Center |
| 96 | University Recreation Center |
| 65 | Waddell Student Health Center |

### Administration

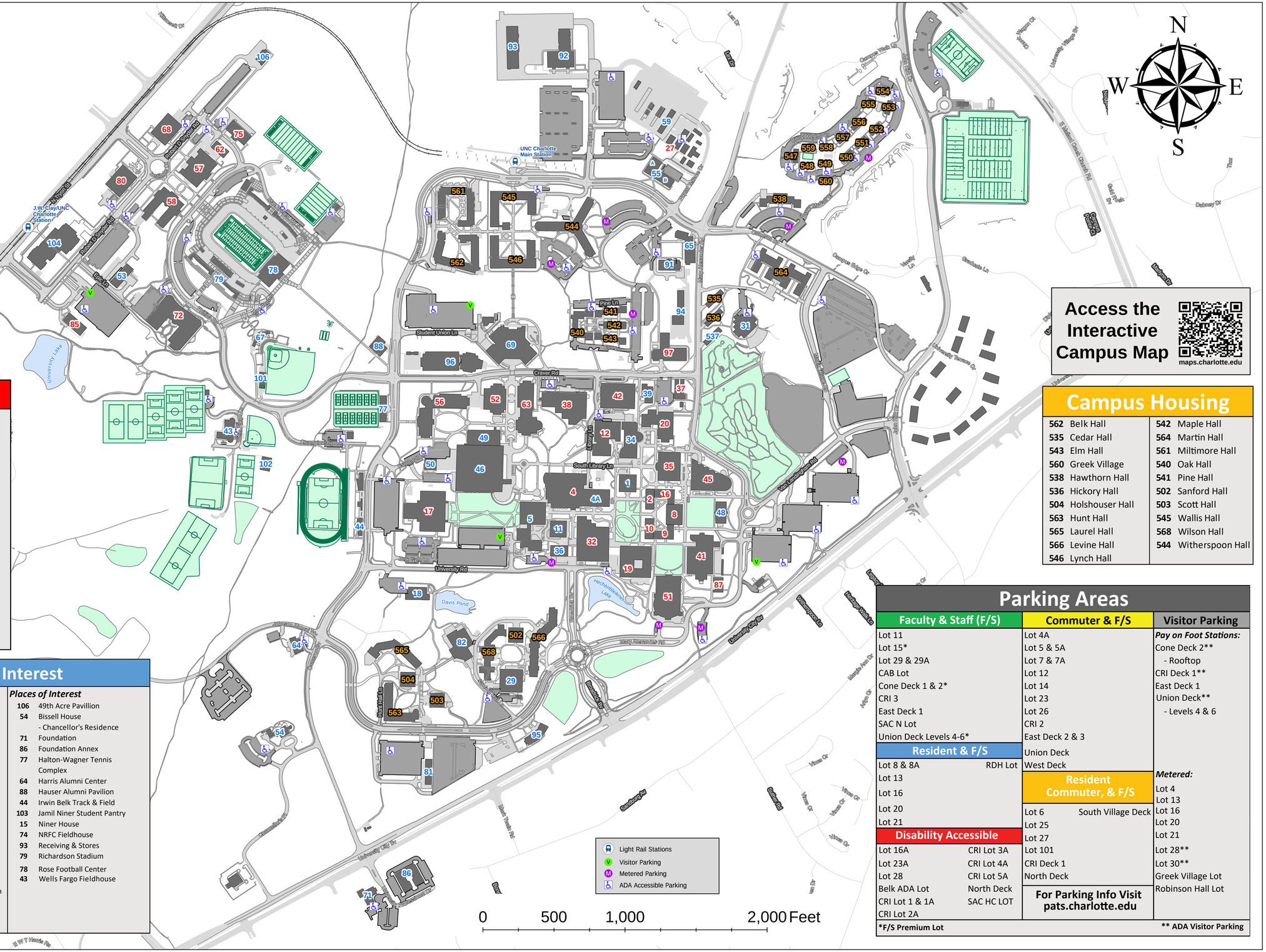
| | |
|---|---|
| 48 | Cato Hall |
| 5 | Cone University Center<br>- Niner Central<br>- Billing and Payments<br>- Financial Aid<br>- Registration/Transcripts |
| 95 | Gage Undergraduate Admissions |
| 1 | Kennedy |
| 11 | King |
| 36 | Reese<br>- Graduate Admissions<br>- The Graduate School |
| 537 | Sycamore Hall |

### Dining Services

| | |
|---|---|
| 5 | Cone University Center |
| 69 | Popp Martin Student Union |
| 34 | Prospector |
| 82 | South Village Crossing |

### Places of Interest

| | |
|---|---|
| 106 | 49th Acre Pavillion |
| 54 | Bissell House<br>- Chancellor's Residence |
| 71 | Foundation |
| 86 | Foundation Annex |
| 77 | Halton-Wagner Tennis Complex |
| 64 | Harris Alumni Center |
| 88 | Hauser Alumni Pavilion |
| 44 | Irwin Belk Track & Field |
| 103 | Jamil Niner Student Pantry |
| 15 | Niner House |
| 74 | NRFC Fieldhouse |
| 93 | Receiving & Stores |
| 79 | Richardson Stadium |
| 78 | Rose Football Center |
| 43 | Wells Fargo Fieldhouse |




## Campus Housing

| | | | |
|---|---|---|---|
| 562 | Belk Hall | 542 | Maple Hall |
| 535 | Cedar Hall | 564 | Martin Hall |
| 543 | Elm Hall | 561 | Miltimore Hall |
| 560 | Greek Village | 540 | Oak Hall |
| 538 | Hawthorn Hall | 541 | Pine Hall |
| 536 | Hickory Hall | 502 | Sanford Hall |
| 504 | Holshouser Hall | 503 | Scott Hall |
| 563 | Hunt Hall | 545 | Wallis Hall |
| 565 | Laurel Hall | 568 | Wilson Hall |
| 566 | Levine Hall | 544 | Witherspoon Hall |
| 546 | Lynch Hall | | |

## Parking Areas

### Faculty & Staff (F/S)

Lot 11
Lot 15*
Lot 29 & 29A
CAB Lot
Cone Deck 1 & 2*
CRI 3
East Deck 1
SAC N Lot
Union Deck Levels 4-6*

### Resident & F/S

Lot 8 & 8A
RDH Lot
Lot 13
Lot 16
Lot 20
Lot 21

### Disability Accessible

Lot 16A
CRI Lot 3A
Lot 23A
CRI Lot 4A
Lot 28
CRI Lot 5A
Belk ADA Lot
North Deck
CRI Lot 1 & 1A
SAC HC LOT
CRI Lot 2A

### Commuter & F/S

Lot 4A
Lot 5 & 5A
Lot 7 & 7A
Lot 12
Lot 14
Lot 23
Lot 26
CRI 2
East Deck 2 & 3
Union Deck
West Deck

### Resident Commuter, & F/S

Lot 6
South Village Deck
Lot 25
Lot 27
Lot 101
CRI Deck 1
North Deck

For Parking Info Visit pats.charlotte.edu

### Visitor Parking

***Pay on Foot Stations:***
Cone Deck 2**
- Rooftop

CRI Deck 1**
East Deck 1
Union Deck**
- Levels 4 & 6

***Metered:***
Lot 4
Lot 13
Lot 16
Lot 20
Lot 21
Lot 28**
Lot 30**
Greek Village Lot
Robinson Hall Lot

*F/S Premium Lot

** ADA Visitor Parking